S
330
A72r

Montana State Library
3 0864 1004 4572 8

STATE DOCUMENTS

Eleventh Report

OF THE

Bureau of

AGRICULTURE, LABOR AND INDUSTRY

OF THE

State of Montana

FOR THE YEAR ENDING NOVEMBER 30, 1908

J. A. FERGUSON, Commissioner

STATE LIBRARY COMMISSION

STATE OF MONTANA.

BUREAU OF AGRICULTURE, LABOR AND INDUSTRY.

Helena, Montana, December 1, 1908.

To His Excellency, EDWIN L. NORRIS,

Governor of Montana.

Sir: I have the honor to transmit herewith the Eleventh Report of the Bureau of Agriculture, Labor and Industry of the State of Montana, the same being the Fifth Biennial Report of the Bureau. I am,

Very respectfully,

J. A. FERGUSON,

Commissioner.

CONTENTS.

Pages.

MONTANA.

General Remarks Relating to Montana ..... 1 to 7

CONSTITUTION AND GOVERNMENT.

A Summary of the Civics of the State ..... 8 to 10

MONTANA'S MUNICIPALITIES.

A Resume of the Cities and Towns of the State ..... 11 to 20

CLIMATE AND CHOROGRAPHY.

A Description of, by Counties and Districts ..... 22 to 31

LANDS.

Government Lands ..... 32 to 33
Homesteading ..... 33 to 45
Opening of Indian Reservations ..... 46 to 48
Forest Reserves ..... 49 to 54
State Lands ..... 55 to 56

IRRIGATION.

Remarks Relative to Government Work, Generally ..... 57 to 60
Reclamation in Montana—General Remarks ..... 61 to 64
Milk River Project ..... 64 to 69
Sun River Project ..... 69 to 70
Lower Yellowstone Project ..... 70 to 72
Marias Project 72
Blackfeet Indian Reservation Projects 73
Flathead Indian Reservation Projects ..... 73 to 74
Proposed Lake Basin Project 74
Proposed Clark Fork Project 74
Proposed Crow Reservation Project ..... 74 to 75
The Townsend and Helena Projects ..... 75 to 76
Ft. Peck Indian Reservation Project 76
Cost of Irrigated Land and Payments ..... 76 to 77
Farming the Project Lands 77
Water Users' Associations 78
Water Users' Co-Operative Certificates ..... 79 to 80
Reclamation by the State ..... 81 to 86
Private Irrigation Enterprises ..... 86 to 87

AGRICULTURE.

General Remarks Relating to 88
Agriculture in Montana ..... 88 to 104
Dry Farming ..... 105 to 114
Sugar Beets ..... 115 to 116
Creameries 117
Farmers' Organizations ..... 118 to 126
Live Stock ..... 127 to 128
Sheep and Wool ..... 129 to 160
Montana Wool Growers' Commission Co ..... 161 to 162

LABOR.

Employment Abuses ..... 163 to 165
The Five-Year Agreement of Butte Miners ..... 165 to 166
Drug Clerks' Strike, Butte ..... 166 to 167
Printers' Strike, Butte 167
Lumbermen's Strike ..... 167 to 168
The Sixteen-Hour Law 168
The Eight-Hour Law ..... 168 to 169
Employers' Liability ..... 169 to 173
The Boycott Constitutional—State Supreme Court Decision ..... 173 to 178
Labor and the United States Supreme Court ..... 178 to 180
The Butterick Case 180
The Bell Telephone Strike 180
Statistics of Butte Free Employment Office ..... 171 to 182
Statistics of Great Falls Free Employment Office ..... 183 to 184

INDUSTRIES.

General Remarks 185
Mines and Minerals ..... 185 to 211
Dredging Field in Alder Gulch ..... 212 to 217
Montana Mining Association 218
Manufacturing ..... 219 to 222
Great Falls Water Power and Townsite Co ..... 223 to 224
Coal Production for the years 1907 and 1908 ..... 225 to 228

MISCELLANEOUS.

Climatology ..... 229 to 247
Assessed Valuations 248
Penitentiary Statistics ..... 249 to 251
Insane Asylum Statistics ..... 252 to 255
Revenues from Licenses ..... 256 to 261
Naturalizations ..... 262 to 266
Divorces ..... 267 to 268
Jail Incarcerations ..... 269 to 270
Directory of United States, State and County Officials ..... 271 to 301
Election Returns, 1908 ..... 302 to 306
Directory of Postoffices ..... 307 to 310

MONTANA.

No printed page can tell the story of Montana's greatness. Even the marvel of photographic art fails to reveal the sum total of magic results which have followed the conjunction of the restless energy of our population, old and new, with the matchless latent wealth of this great store house of nature. Not alone in the older cities and towns of the State, but in localities heretofore given over to sage brush, coyotes and roaming bands of live stock, the most amazing transformation is taking place. The building of hundreds of miles of railroads, not on paper, but actual roads now in operation, has metamorphosed conditions in a marvelous degree. Henceforth remote regions of great promise have been rendered easy of access, for nearly a hundred new stations have been added to the quota.

These embryo cities are busy with their new growth and many of them already give evidence of steady advancement and prosperity. Stock ranges and farms of large dimensions are rapidly being brought under cultivation in small tracts, bench lands especially being utilized for grain production throughout the entire eastern portion of the State, necessitating the erection of a score of new elevators to properly care for the vastly increased yields.

Improvement districts in various cities have necessitated the expenditure of hundreds of thousands of dollars for street parking, tree planting, paving, sewers, grading, and cement walks. Magnificent public buildings are being erected in many places, while a vast army of mechanics is employed in the construction of dwellings and business structures in every part of the State.

Three immense dams for the production of electric power are now in course of construction and others are ready to begin, all the preliminaries having been completed. Hundreds of men and teams are at work on public and private irrigation enterprises and these will, when finished, add greatly to the productive capacity of the State.

All the mines and smelters are now operating to their full capacity. The differences existing in the lumber industry having been settled, the mills and camps are again in full swing, and railroad business is assuming normal conditions. While construction forces on the new railroads have been materially lessened by reason of practical completion of the work, many large gangs are still engaged in track laying and repairing flood damages and still further extensions into new territory are promised.

Embracing 146,080 square miles of mountain, valley and plain, all teeming with present and prospective development and rich beyond avaricious dreams in almost every natural resource; with single counties capable of supplying every material necessity of the entire state's population, and a surplus for export, possessing in one locality the second largest production

of electrical horse power in the world, and with vast opportunity for further extension; with virgin mountain forests containing timber at present rate of consumption to last 180 years; with fertile soil producing the world's finest crops in hay, grain and fruit, and with the most bountiful water supply of any arid or semi-arid state in the Union; holding the most richly mineralized districts on earth, including 32,000 square miles of coal lands, together with an unsurpassed climate and a present population of about two persons to the square mile, it is confidently asserted that no other available area of habitable territory offers so many and varied favorable, profitable inducements to settlers and investors as does the State of Montana to-day.

There is on every hand unmistakable evidence that the time of expansion and development of resources so often and confidently predicted, has at last arrived. The spirit of advancement has seized the people, and in every city and village in the State there is intelligent, concerted action towards spreading information regarding the advantages of the locality broadcast to the world. In this work the railroads and irrigation projects are assisting and the results are shown in a large and growing influx of settlers, especially in the eastern, northern and central parts of the State.

There is room in Montana for a million new settlers, and we need them. But with their coming the State must assume its full duty of securing to these new citizens at least a fair chance of success. They should come with a comprehensive knowledge of the conditions under which homes are to be established; of the possibilities of securing homesteads, of markets, schools, and social advantages; of soil, rainfall and irrigation projects together with detailed information upon the vast difference which exists in agricultural methods in Montana and in the states where they have hitherto had their homes.

These matters are all essential, but there is one other of paramount importance. It is the duty of the State to instruct the incoming settlers, not only in the use of an artificial water supply, but in the methods requisite for success on dry farms. Many hard working farmers have totally failed this year to mature crops on dry farms and while failure cannot in every case be attributed to lack of knowledge of the necessary procedure, or neglect to properly prepare the ground to conserve the moisture, these were the causes in at least a large percentage of instances. The success or failure of these people who are coming is of the greatest importance to the State. If they continue to pour in at the present rate without proper and necessary instruction in those methods which are essential to success, the enormous percentage of failures certain to result means loss and suffering to them and disgrace and disaster to the commonwealth. It is infinitely better that the State should at once, through experiment farms and farmers' institutes, begin the instruction of the recent arrivals rather than to lend its aid to the task of inducing still further immigration.

Montana needs and has room for thousands of settlers, and offers an attractive field for investment. Even in agriculture and mining, which are

to-day the leading industries, future development will make present production appear almost ridiculous. But in both these directions there is neither safety nor progress in "wild catting." It is perfectly proper and legitimate that the State and various localities should publish their attractive resources inviting investment and settlers. But especially as regards land conditions the truth should be rigidly adhered to. Recent experiments have proven apparently beyond question that there are large areas susceptible of profitable cultivation under modern dry land methods. But to deduce from this that Montana contains thirty or forty million acres of arable land only waiting the magic touch of the plow to produce fabulous crops, is simply an infamous deception which can only result in harm to all concerned. In the proper place will be found a record of dry land farming, or farming without an artificial water supply, which contains detailed information upon present and prospective development in that line of agriculture in Montana. At this time it will perhaps be sufficient to intimate that success in dry farming may be looked for on tracts comprising a half or an entire section of land rather than on the smaller units now obtainable as homesteads. To farm a section of land requires plenty of money aside from the initial investment. In a word, it is not a poor man's proposition. And here arises a very serious objection to an indiscriminate campaign for settlers, for it is the poor man who is most anxious to better his condition, and who lends a willing ear to the seductive advertising of the land exploiter, public or private. Without means, or knowledge of necessary methods, many of this class are doomed to failure, and it is the heighth of folly to encourage them in large numbers to make an attempt on dry farms under present conditions.

Aside from the unirrigated portions of the State there remains only the lands now in process of development by the great reclamation projects under Government and State control. Here, again, the poor man is handicapped, for these lands range in price at from $20.50 to $35.00 and $50.00 an acre. There is practically no land left in Montana upon which a man can put water by his own unaided efforts. Concerning homesteads on forest reserves, it may be said that old timers now in possession of desirable tracts within the boundaries of the reserves, will prove up and secure title to their holdings; but no newcomer will go upon the reserves to locate a homestead. Indeed, unoccupied locations are hard to find. The claims consisting of patches of strung-out bottom lands with a small stream wholly covered by secure water rights, and generally in a high state of cultivation, are opportunities of the past.

A careful study of facts and conditions, therefore, leads inevitably to the conclusion that an indiscriminate advertising of Montana's agricultural resources is inadvisable at this time. The State is not ready for the enormous influx of people that would ensue, and the net result would be disappointment to all concerned.

If, in the foregoing, there is a pessimistic note, or a word which will prevent the immigration of one single individual settler, laborer, mechanic or investor, its purpose will have been materially misunderstood. This

department, while in no legal sense an immigration bureau, is anxious to see the State developed and its present population multiplied an hundred fold, and to these ends has probably done more, voluntarily, than all other agents and influences combined. The reports of the bureau have predicted and fostered industrial development and they are material factors today. They have welcomed and advised settlers, and the results are apparent in numerous districts throughout the State. But in every instance it has been found not only the best policy, but all that was necessary, to tell the whole truth. No fulsome praise, no catchy phrases, no devices to snare the uninformed or unwary. Plain facts are enough and, best of all, the labors of the bureau in this direction have not required the expenditure of a single additional dollar. It is now becoming apparent, however, that its activities should be extended, so that it may take on, in some degree, the duties of an immigration department. This may easily be done through legislative enactment without creating any new offices or making excessive appropriations for the work.

The great agricultural future so confidently predicted for Montana will not be realized until the completion of the various reclamation projects permits the cultivation of a million acres in small units, and the dry lands are properly worked in larger tracts. This will take time, and meanwhile, conservative, steady advertising, together with consistent and systematic instruction through the officials of the Agricultural College and the directors of the Farmers' Institutes will not only provide settlers in sufficient numbers to develop the State, but will insure abiding prosperity and success.

Concerning the policy to be pursued by the State toward promoting settlement, the whole question would seem to resolve itself into a choice between "exploitation" and "conservation" of natural resources. Heretofore land, timber, coal, water power have been apparently handed over to the first comer in quantities to suit, with little or no recompense, and apparently without thought that future generations had any inherent rights in these vast treasures. Title has passed to lands in hundred thousand acre blocks; by far the major portion of the standing timber is already in private ownership; so great was the scramble after coal lands that 32,000 square miles of coal fields in this State were withdrawn from entry by proclamation of the President; the attention of the people was also called by the same authority to the fact that sites for the production of electricity by water power were rapidly passing into private hands without any recompense being received for these highly valuable concessions.

Returning from a recent conference in Washington, the governors of many states, including Montana, have taken up this question of conservation of resources, and at last there seems to be a slight ray of hope that some check is to be put upon the heedless, stupid and carelessly criminal waste which has characterized the distribution of favors upon the public domain. Grave and far reaching as have been the errors of this character committed in this State, there is still room for hope, if the awakening comes not too late.

Read a short extract from Farmers' Bulletin No. 327, issued by the United States Department of Agriculture, on the Conservation of Natural Resources:

"The nation has on the continent of North America three and a half million square miles. What shall we do with it? How can we make ourselves and our children happiest, most vigorous and efficient, and our civilization the highest and most influential, as we use that splendid heritage? Ought not the nation to undertake to answer that question in the spirit of wisdom, prudence, and foresight? There is reason to think we are on the verge of doing that very thing. We are on the point of saying to ourselves, 'Let us do the best we can with our natural resources; let us find out what we have, how it can best be used, how it can best be conserved. Above all let us have clearly in mind the great and fundamental fact that this nation will not end in 1950, or a hundred years after that, or five hundred years after that; that we are just beginning a national history the end of which we cannot see since we are still young.' In truth we are at a critical point in that history, for we have reached the turning of the ways. We may pass on along the line we have been following, exhaust our natural resources, continue to let the future take care of itself; or, we may do the simple, obvious, common-sense thing in the interest of the nation and the people, just as each of us does in his own personal affairs.

"On the way in which we decide to handle this great possession which has been given us, on the turning which we now take, hangs the welfare of those who are to come after us. Whatever success we may have in any other line of national endeavor, whether we regulate trusts properly, whether we control our great public service corporations as we should, whether labor and capital adjust their relations in the best manner or not—whatever we may do with all these and other such questions, behind and below them all is this fundamental problem. Are we going to protect our springs of prosperity, our sources of well-being, our raw material of industry and commerce, and employer of labor and capital alike; or, are we going to dissipate them? According as we accept or ignore our responsibility as trustees of the nation's welfare, our children and our children's children for uncounted generations will call us blessed, or will lay their suffering at our doors. We shall decide whether their lives, on the average, are to be lived in a flourishing country, full of all that helps to make men comfortable, happy, strong, and effective, or whether their lives are to be lived in a country like the miserable, outworn portions of earth which other nations before us have possessed without foresight and turned into hopeless deserts. We are no more exempt from the operation of natural laws than are the people of any other part of the world. When the facts are squarely before us, when the magnitude of the interests at stake is clearly before our people, it will surely be decided aright."

Here is something that may well be made the subject of legislative action, stimulated and guided by well informed, intelligent public opinion. Montana today possesses in great profusion these sorely threatened resources.

The remedy is not to be applied in some other state by some other people, but by ourselves to our own possessions.

There are the thousands of acres of school and State lands, with nearly two billion feet of timber; there are the Carey land act projects; the unsurpassed opportunities for water power; the coal and mineral deposits on the State's land holdings. And many other things that belong directly within the province of State administration, to say nothing of United States Government matters, which demand immediate attention. Every session of the Legislature which passes without action exposes the public property to two years more of assault and battery, and private possession and exploitation of a common heritage becomes augmented in that much greater degree.

Is a state truly developed when every natural resource has passed into private hands? Have we reached the highest mark of civilization when our land, timber, coal and water have become revenue producers for a score or so of individuals to whom all others must pay tribute?

The people of this State are to-day in possession of an enormously valuable patrimony, and we are indeed at the parting of the ways. We may be wise or foolish, thrifty or profligate, successful or degenerate.

The future population of Montana, however great, may be prosperous and contented, or become subservient tenants of vast special privileges, and contributors to purse-proud over-lords—purloiners of our natural resources.

How to avoid these evils, how to confer the greatest benefits upon the present generation without endangering the rights of those to come; how to curb greed and avarice without hindering proper and profitable development; in short, how to conserve the interests of the whole people in the present and for the future; these are the problems. In their solution there is no need of shutting off either settlement or investment. Both may be invited and fostered, but neither should be subsidized nor misled. Give the settler to understand just what he may expect to find, and tell the investor in plain language the terms upon which he may occupy and use our natural resources, not as a monopoly for private gain, but for mutual benefit. This policy, based upon sound business principles, will develop the State without encouraging that wilful waste which makes woeful want..

No state can have a higher, nobler object than the advancement and promotion of the true happiness and welfare of its constituency, nor a surer warrant for permanency than will be found in a zealous guardianship of the rights of its humblest citizen. This sentiment should be galvanized into life, and no longer remain a meaningless platitude. It is the business of the State to protect and conserve the common property of the people, and soon or late, an accounting will be demanded.

Let the policy then be one of conservation rather than exploitation; let the heritage of the people be used for the benefit of the whole people that generations yet to come ask not in vain for their patrimony.

The resources of the State should be developed, but not in such manner that control shall pass forever from the hands of those dependent upon such raw material for existence in peace and comfort.

There is no true progress in handing over a strip of land fifty miles wide, and the length of the state, to a railroad which afterwards withholds it from market for speculative purposes. No lasting benefit comes to the people by allowing the larger part of the forests to pass into the hands of a lumber king and guarded at public expense while the mills are idle waiting for an advance in the price of lumber.

Agricultural greatness will not come by allowing almost limitless tracts of land to pass into the private ownership of single individuals. Nor will industrial supremacy be gained through the appropriation by private companies of the most desirable locations of dam and power sites and coal deposits.

These are and should always remain communal properties, and a policy which ignores this fact, or seeks through exploitation to divert this wealth into private hands without due recompense to its rightful beneficiaries, is either lamentably ignorant or studiously criminal. Let us not be in a hurry. It is easy to promote an unhealthy growth, which often requires an heroic remedy. Montana is bound to expand and flourish; it is our duty to see that it does so in the right direction.

CONSTITUTION AND GOVERNMENT.

Montana was organized as a Territory in 1864 and was admitted into the Union as a State by Act of Congress February 22, 1889.

The legislative power is vested in the people through a tolerably comprehensive direct legislation act, as well as Senate and House of Representatives, which meet in regular session on the first Monday in January in each odd numbered year, the duration of the session being limited to sixty days. There are twenty-seven senators, one from each county, elected for four years in such manner that the Senate is renewed to the extent of practically one-half at each biennial election.

The members of the House of Representatives, seventy-three in number, are elected for two years. Senators and Reprsentatives are paid six dollars a day during the session and are allowed mileage at ten cents per mile to and from the capitol.

Elective State officials serve for four years with the exception of the Justices of the Supreme Court, the Clerk of the same, and the members of the Railroad Commission, whose terms are for six years. At the first election for the latter officials, November 3, 1908, three were elected for two, four and six years respectively; then follows the six-year terms for all.

Officials and their yearly salaries are: Governor, $5,000; Lieutenant Governor, $10 per diem during sessions of the Legislature, but no salary or mileage while acting Governor; Secretary of State, $3,000; Treasurer, $3,000; Auditor, $3,000; Attorney-General, $3,000; Superintendent of Public Instruction, $3,000; Justices of the Supreme Court, $6,000, with $1,500 each a year for services in preparing digests; Clerk of Supreme Court, $2,000; Railroad Commissioners, $4,000.

The Governor appoints to four-year terms with salaries ranging from $1,200 to $2,500 a year, his private secrtary and a stenographer; the State Land Agent, Register of the State Land Office, Commissioner of the Bureau of Agriculture, Labor and Industry, State Examiner, Veterinary Surgeon, Inspector and Deputy Inspector of Mines, Coal Mine Inspector, Boiler Inspector and two assistant Boiler Inspectors, Game and Fish Warden, State Engineer, Secretary and Assistant Secretary of Bureau of Child and Animal Protection, Clerk of the State Board of Equalization, Board of Pardons Prison Commissioners and Insane Commissioners, and a custodian each for the Fort Ellis and Fort Maginnis Indian Reservations. Direct administration of the affairs of state falls upon these officials and the members of the various boards, whose membership may be found in the official directory contained in this report.

The State is represented in the Federal Congress by two Senators and

one Representative. It has a full complement of local United States officials, including a District Judge, United States Marshals and Commissioners, together with land officials, immigration inspectors, forest supervisors revenue collectors and Reclamation Service. There are also the United States Agricultural Experiment Station and a Government Fish Hatchery at Bozeman.

For local administrative purposes the State is divided into twenty-seven counties, each under a board of three commissioners, one being elected every two years for a six-year term.

For the administration of justice the State is divided into twelve districts, one having three judges, two districts have two judges, while the others are presided over by a single judge each. In every case the salary of a district judge is $3,500 a year, paid to him by the State, and one-half the salary of each county attorney is also paid by the State, the amount varying with the classification of the county, this being based upon its assessed valuation.

The Supreme Court has a Chief Justice and two Associate Justices and is the court of last resort in the State. There are also a marshal, stenographer and assistant.

Each township may elect two justices of the peace and two constables.

State institutions consist of the University of Montana at Missoula, the School of Mines at Butte, the State Normal College at Dillon, the Montana College of Agriculture and Mechanic Arts at Bozeman, the Montana School for the Deaf and Blind at Boulder, the State Orphans' Home at Twin Bridges, the Soldiers' Home at Columbia Falls, the State Reform School at Miles City, the Insane Asylum at Warm Springs and the Pententiary at Deer Lodge.

There are thirty hospitals, railroad, private and ecclesiastical, one orphanage supported by private contributions, a Catholic Orphan Asylum and a dedication home for children, with three homes for aged adults.

The County Commissioners have exclusive superintendence of applicants for poor relief and may establish a poor farm or let out the support of the poor by annual contract. With a population of 300,000 there is not to exceed 500 pauper inmates in all the poor houses in the State.

Matters of public health and sanitation are supervised by the State Board of Health, which selects a practicing physician as secretary, with an office in the Capitol building.

The State Revenues are derived chiefly from a general property tax and the proceeds from the sale and leasing of State lands. The latter is used exclusively for the care and maintenance of State institutions and the redemption of the bonds issued for construction of the Capitol building. For State purposes the rate of taxation on real and personal property must never exceed three mills on each dollar of valuation, and when the total assessed valuation of all property in the State reaches $300,000,000 the rate must be one and one-half mills. The present rate is two and one-half mills. From this source the State Treasurer received during the year 1908 the sum of $613,690.83, while the amount received from all sources was $2,564,050.48. Expenditures

for all purposes were $2,691,790.08, and the balance in the State Treasury at the close of business November 30, 1908, was $564,116.72.

The State has the sum of $2,350,039.34 invested in school, county and municipal bonds, which earn an average of four and one-third per cent interest.

Bonded indebtedness is limited by the Constitution to $100,000. There are no outstanding bonds or warrants and all claims against the State, except bounties on wild animals, are paid in cash. No appropriation can be made or expenditure authorized for a greater sum than is raised by the tax levy for State purposes, and all appropriations are for a two-year period.

Making profit out of public money by a State official is a felony, and the offender is disqualified from holding office.

The assessed valuation of the State for 1908 is $252,294,016.

The State's fiscal year begins on March 1.

The State Auditor is also Commissioner of Insurance and supervises the business of all companies writing insurance in Montana.

A State law library containing nearly twenty thousand volumes is maintained at the Capitol, while the Miscellaneous and Historical Library is one of the best of its kind.

Occupation licenses are no longer required from the State or counties, but may be and still are levied in cities and towns.

Gambling is prohibited by law, but liquor selling is under license without local option or other restriction.

Aside from the educational institutions maintained by the State there are three colleges and one training school. The public school system is of the highest grade, being richly endowed with land grants and cheerfully supported by a ten to fifteen mill general property tax. There are 45,000 enrolled pupils, 991 school houses valued at $3,602,065 and 1,888 teachers. Parochial schools occupy magnificent buildings and have between 5,000 and 6,000 pupils. Montana has fifteen free county high schools. The compulsory education law is comprehensive and impartially enforced. New and far-reaching juvenile delinquent laws are now in effect and children under sixteen years of age are forbidden by constitutional provision from working in underground mines, in mills and smelters for the reduction of ores, and by law from employment in certain industries. Numerous laws are on the books for the protection of employees, including eight-hour laws for miners and employees on public works, an employers' liability law, inspection of mines and boilers, forbidding blacklisting and false advertising in case of strikes, with many others. The letting by contract of the labor of inmates of the State Penitentiary is prohibited by the Constitution, but these and county prisoners may be employed on State account, or by the county where confined.

MONTANA'S MUNICIPALITIES.

The astonishing progress in rural communities throughout the State has been fully equalled in cities and towns. Fully 100 postoffices have been added by reason of the irrigation projects and railroad construction, as shown by the postoffice directory. Not all of these can be described or regarded as cities, but many of them, from location and environment, give promise of future development with flourishing trade centers.

The city of Butte is the metropolis of the State, with an estimated population of 75,000. Its copper mines, which daily hoist 15,000 tons of ore, are the basis of its great activity and wealth. Butte produces 30 per cent of the copper mined in the United States; 24 1-2 per cent of the copper produced in North America, and 17 per cent of the copper of the world. It mines more silver than any other district in America and more gold than any other part of the State. These are by-products of the copper mines. Ten thousand men are at work in the mines, whose wages aggregate $1,250,000 a month.

In the 900 miles of underground workings, Butte mines consume 65,000,000 feet of lumber and 225,000 stulls annually. Four million pounds of giant powder are exploded every twelve months. Deposits in banks approximate $14,000,000.

There are four transcontinental railroads and one short line, whose combined tonnage equals 16,000 carloads each month. This means that Butte pays more than $24,000 a day in freight charges. Aside from the mines the city has many flourishing industries which provide employment for an army of skilled mechanics and laborers.

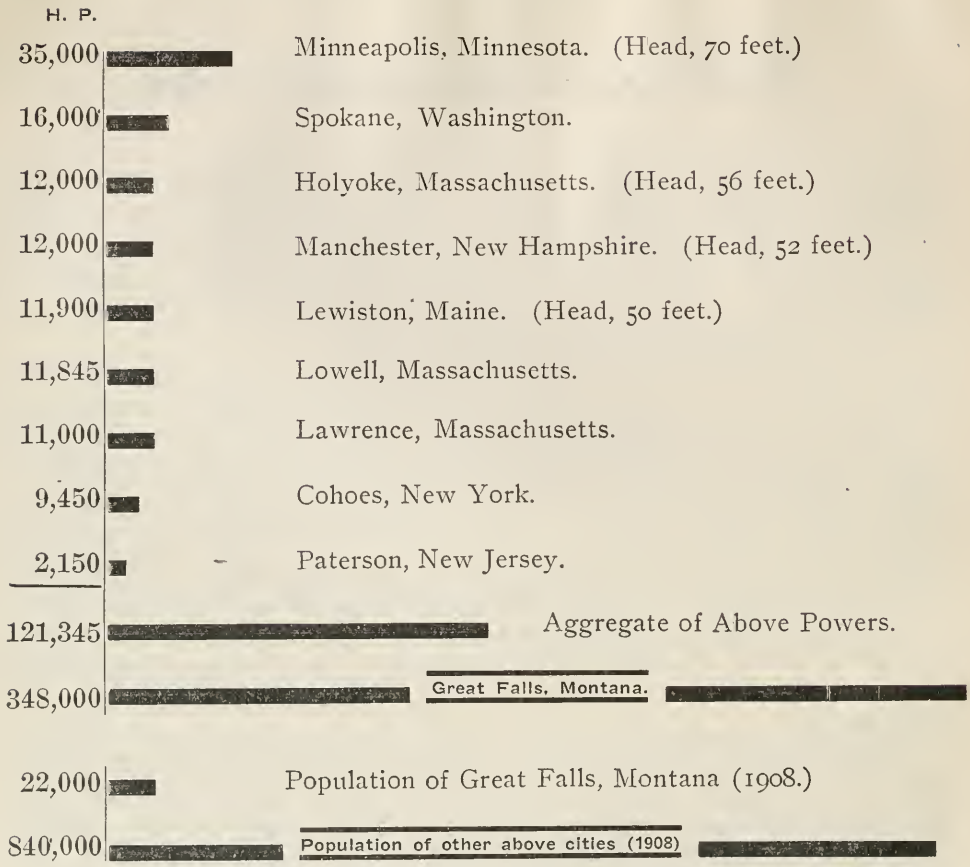
Improvements have progressed in a measure commensurate with the wealth of the city, which, with the abatement of the smoke nuisance from the smelters, is rapidly becoming a city of grass, trees and flowers.

There are forty miles of electric road, paved streets, a $300,000 federal building and bonds have been voted for a new city and county court house.

The second city in size and importance is Great Falls, with an estimated population of 22,000. Its eminence has been attained through the operations of the Boston and Montana smelter, the richness of the agricultural and grazing lands about it, and the presence of gigantic water power. The smelter treats ore from the Butte mines and is now being enlarged to double its present capacity. The highest stack in the world has just been completed at these works.

The opening of the Sun River irrigation project means much to the city, but above all, the construction of dams, now under way, which will utilize part of the enormous water power, will tend to make Great Falls one of the largest industrial centers in the Northwest. The following chart shows some of the possibilities in this direction:

Available Water Power at Great Falls and Other Cities.



Two dams, one of which is now under way, will generate 60,000 horsepower. Some of this current will be sent to Butte and other places, but Great Falls is promised a wire mill, glass factory and other industries, which will tend to promote its growth and prosperity. No city in the State exceeds Great Falls in civic pride. It has a magnificent system of public parks, consisting of over 500 acres, new street pavement, miles of parked streets with beautiful shade trees and costly public buildings, among them the finest court house in the State.

Railroad facilities have lately been increased by the construction of the Billings and Northern road and rumors of new construction are constantly heard.

All indications point to an unprecedented industrial growth, while the agricultural development of the country tributary to the city is an assured fact.

The capitol city of the State, Helena, estimated population 14,000, has many advantages as an educational and business center and is rated a very wealthy city. It is centrally located, with fine public buildings, including the

Capitol, has expended hundreds of thousands of dollars in parking and grading streets, and is the home of extensive manufacturing and jobbing interests. With the dams in the Missouri River completed, together with those now in operation, electricity amounting to 59,000 horsepower will be developed. In connection with these projects the irrigation of 30,000 acres in the Prickly Pear Valley, adjacent to the city, is provided for.

Helena already possesses all the accommodations and utilities of a large city and has an assured future. Large sums of money have recently been expended in erecting new buildings of all kinds. The foundation of an immense cathedral is completed and plans are drawn for a Catholic college, which will be the equal or, perhaps, surpass in size any educational institution in the State.

Few localities present the advantages of Helena as a place of residence and her beautiful homes are the pride of all.

Anaconda is the site of the largest smelter in the world. The population is variously estimated at from 12,000 to 16,000. Situated in a grand valley, with fine climate and good water, the city offers many inducements for home makers. The pay-roll at the smelter and from other flourishing industries, gives stability to merchandising, and a large volume of business is transacted. The ores treated at the smelter come from Butte mines.

Many notable iprovements in business blocks and private homes have been made during the past year, but without anything resembling a boom. The city celebrated its twenty-fifth anniversity July 4, 1908.

The advent of the Milwaukee Railroad in Missoula gave that city a wonderful incentive to growth and prosperity. For two years past a conservative banker estimated that the pay-roll had everaged $800,000 a month. Missoula is called the "Garden City," and richly deserves its name. It is headquarters for a large part of the vast lumber industry of Western Montana and has a number of thriving industries besides being the center of a great farming and fruit-growing region, and the distributing point for merchandise as well.

There are two transcontinental railroads and two very busy and extensive branch lines. The city has the division headquarters of the Northern Pacific Railway and the offices of the Western district of the United States Forestry Service.

The population of about 10,000 is imbued with a progressive civic spirit rarely found. With the State University, a fine business college, extensive sisters' and brothers' schools and a new $75,000 high school building, the educational advantages are at once apparent.

Until June 15, 1908, the ordinance requiring building permits was not strictly enforced. From the records and estimates by competent pesons it is apparent that not less than 155 buildings were erected from January, 1907, to November 1, 1908, having a total value of $387,325. Permits have also been issued for the construction of eight business blocks, which are now under way, calling for a valuation of $420,000. As the charge for permits is based upon valuation, it is conservative to add at least 25 per cent to these figures. A court house to cost $180,000 is now being erected, and the con-

tract for a bridge to cost $135,000 was recently let by the county. This structure is to replace one destroyed by floods in 1908.

The city presents a most attractive appearance, is in every way a desirable residence town and merits close investigation.

It is but natural that with the great and rapid progress of development in Yellowstone county urban growth should have kept pace. Billings continues to give every evidence of continued prosperity and thrift. Although times were effected by the money stringency of the past, recovery has been swift and the outlook for the future never appeared brighter. That faith in the permanency of the city is unwavering is manifested by the continued investment of capital in different enterprises. A large number of residences are in course of construction, while several business blocks are going up. A splendid three-story structure has been built by the Odd Fellows. The fact that leases for the storerooms on the ground floor and for the offices in the upper stories were executed even before a brick was laid speaks well for the city. The same may be said of the other blocks that are going up.

Preliminaries are arranging for the construction of an electric railway which is to connect Billings with Cooke City and the New World Mining District. Right of way has been secured for the proposed line as far as Laurel, fifteen miles west of Billings, and it is hoped that grading will be under way for that part of the road before the end of the year. Liberal subscriptions have been made toward the building fund for the Billings Polytechnic school. Two dormitories are to be erected to begin with, after which the administration building will be put up and other buildings as rapidly as possible. Several well known eastern philanthropists have become interested in the project and the school will begin its existence with a generous endowment fund.

A franchise has been granted for an electric railway system. The original grantees of the charter have transferred their rights to other parties who have revised the survey and intend to occupy different streets than were originally contemplated. While the new concern is not saying much, it is doing a great deal of quiet work, and the prospects are regarded as especially good for the early completion of the system.

Never at any time having a boom, Billings' growth has been remarkable for its rapidity and permanency. In 1900 the Government census gave the city of a population of only 3,221. This has increased until at present conservatively estimated it is fully 14,000, with a constant growth adding to it steadily. In the matter of natural location and acquired advantages the city is peculiarly fortunate. It has excellent railroad connections, being on the main line of the Northern Pacific and the western terminus of the Chicago, Burlington & Quincy, which gives it an outlet into Northern Wyoming and lays tributary to Billings a vast and constantly expanding territory. Billings is the southern terminus of the Billings & Northern by means of which it secures ingress into the rich agricultural section to the north and a direct outlet into southern Canada. The Milwaukee is only forty miles distant and as soon as the main line shall have been completed a branch will be projected into the Sugar City.

With practically unlimited electric and water power at its door and the advantages it possesses through its railroad connections, Billings is destined to become an important manufacturing center. Already a cannery, woolen mill, foundry and other industrial concerns are almost as good as assured. To these and all other legitimate institutions Billings extends a cordial welcome and its business men, through the Chamber of Commerce, are prepared to offer substantial inducements to locate there.

The city of Bozeman is enjoying a steady, healthful growth, and is rapidly being transformed into a modern municipality.

Five and a quarter miles of cement sidewalk, four and three-quarter miles of concrete curb and eighty-five concrete crossings are in, and nine blocks of concrete pavement were recently laid. The population is estimated at 7,000.

As do many other Montana cities, Bozeman owns a municipal water plant, with receipts for 1907 of $24,858.16, while the expenses of operation was only $3,000. The plant was bought from a private company for $165,000 and from its earnings $70,845.64 have been spent in extensions and betterments. At the time the plant was taken over the city was paying $5,520 a year for 66 hydrants and watering the cemetery. Nine hydrants have been added, which totals a saving to the city in cost of water of $6,195 a year, saying nothing of the profits on water rentals.

The College of Agriculture and Mechanic Arts and Experiment Station are located at Bozeman, has been of untold advantage in the development of the tributary country upon whose richness and vast yearly production of farm wealth the future prosperity of the city is firmly based.

An interurban electric road is promised in the near future which will aid in advancing the business interests of the city.

"Bozeman the Beautiful" has an ideal location, fine climate and many advantages as a home town, with bright prospects for the future.

As the gateway to Yellowstone National Park, Livingston is perhaps more widely known than many of her sister cities in the State. With a population of 6,500 and supported by the varied mineral and agricultural resources of a large tributary country, Livingston is an active, bustling community. The railroad shops are extensive and employ a large quota of men. Thousands of dollars have been expended in municipal improvements and in building operations. Irrigation projects which are assured, and prospective branch railroads, together with mineral development, will combine to promote the rapid and substantial growth of the city.

Yellowstone Park business brings a great many thousand dollars a year to Livingston, and is one of the valuable resources.

Miles City has been made a division point on the Milwaukee Railroad, and for the past two years has witnessed remarkable activity, which shows no signs of abatement. In 1908 there were 1,800 conveyances of city real estate.

The railroad shops consist of three large buildings and a 19-stall round house, involving a cost of more than $100,000. A force of 300 men will be employed regularly at the shops.

At least 150 residences were erected during 1908, averaging easily in cost $2,000 each, and fully $100,000 was expended in business buildings. The Government has just rented a new $30,000 building for the postoffice.

The city is in "The Heart of the Yellowstone," with all that this means of progress and development for the future. Great reclamation projects and thousands of acres in dry farms will pour their wealth through Miles City channels and a highly prosperous municipality is an absolute certainty.

Light and water plants are owned by the city and fine service is maintained, with profitable results. The population has rapidly increased and is now between 5,000 and 6,000.

Lewistown is the metropolis of the "Inland Empire," and boasts 5,000 residents. It is a beautiful, progressive town and attained much of it present development without the assistance of a railroad. It now enjoys close connections with the new Chicago, Milwaukee & St. Paul Railway and the Billings & Northern as well. Contiguous to one of the most famous agricultural districts, the supply point for a vast stock raising region and but a few miles distant from the cyaniding properties in the Little Moccasin Range, Lewistown leaves little to be desired as a great business center. These advantages combined with a fine climate, good water, roads and schools, provide a most likely opportunity for a comfortable home and successful occupation.

Notwithstanding the fact that Kalispell lost its position on the main line of the Great Northern Railway by reason of the construction of a new cut-off, thus losing division headquarters, it has had a steady increase in population and is growing rapidly in business enterprises. During 1908 283 residences and business houses were erected. Doubtless a large part of this increase may be attributed to the coming of persons attracted by the opening of the Flathead Indian Reservation, who, impressed by the matchless scenic beauty, climate and general advantages of the city, have simply concluded to stay and make their homes. Kalispell is the center of an immense lumber trade, besides being the market for the great crops of grain and fruit for which the country is famous. Its importance will be augmented by the opening of the Reservation and the city will always be prosperous and progressive.

Havre is a division point on the Great Northern Railway and while it dates an existence from the coming of the railroad, it is practically a new town, having had two disastrous fires in recent years. It has one of the largest railroad shops in the State, is the center of a vast stock-growing and agricultural community, and has valuable coal deposits. The population is about 5,000 and they are energetic and alive to all that will help the town.

The Government irrigation projects on Milk River mean much in the future of Havre, and its citizens have been very much interested in the movement.

The climate may not be so attractive as in some other places, but Havre is noted for business, and as a great place for making money.

Chinook, Harlem, Malta, Glasgow, Culbertson and Mondak are all busy, thriving towns in the Milk River Valley, and along the line of the Great Northern Railway. None of them as yet have a very extensive population,

but they are all growing and, with the reclamation of the valley, are sure to develop into cities within a comparatively few years.

Dillon is the largest town on the Oregon Short Line, south of Butte, and is the market and supply point for a great stock-growing, mineral and agricultural district. The State Normal School is here and adds greatly to the social and educational advantages of the town. There has been a steady growth in population and business during recent years, though Dillon is rather out of the track of the excitement common to so large a part of the State in 1907-8.

With a population of perhaps 3,000, the city presents a solid, substantial appearance of wealth and prosperity, and is an ideal place of residence.

Red Lodge is the cleanest, best-built, best-kept coal mining camp in the United States. It has grown in the last two or three years from a population of about 3,000 to a strong 5,000 at present. It is the home of the Northwestern Improvement Company, which owns the famous Rocky Fork coal mines. This company already had the largest coal mining plant in Montana and was the largest producer in the State, but notwithstanding this, it has sunk a new slope and is developing a new mine just at the edge of the city which is known as the Sunset Mine, on which has been expended $500,000, and began to turn out coal the first of October. This plant is equipped with 3600 horsepower and is the most substantially built and equipped of any coal mining plant in the State. The pay-roll of this company in the month of July was $87,000, and this was increased to approximately $100,000 a month in December.

More houses have been built in the last fifteen months than in almost fifteen years of former times. A bank building was recently completed which cost $30,000 and this would be an ornament to any city of much larger size. There are three city schools, all built in either brick or stone, and a county school organization is maintained but the school is conducted in one of the city school buildings.

One of the factors of importance in the building of the numerous homes of workingmen in the city is the Carbon Building and Loan Association, which has advanced nearly $100,000 in the building of homes during the last eight years, 50 of which have been built within the last two years. This association has been so successful in the profits of its work to its members, too, as to be worthy of notice. It has matured three different series of its stock in six years each as against eight years provided for in the contract. The stock is sold on the basis of $100 a share payable at the rate of $1.00 a month for 100 months or eight and one-third years. On the basis on which these three series of stock have been matured the owners have paid in $1.00 a month for only 72 months and received a share of stock that is worth $100. Building and loan associations which can show such results are few, indeed.

A most striking feature of the city of Big Timber is the neatness and air of roominess of its wide main street. The business blocks are large and modern, generally built of the gray sandstone from the local quarries. This stone is rapidly attracting attention from contractors in other localities. The residence streets show handsome and comfortable homes, with well kept

lawns and shade trees. There are about five miles of cement walks. Big Timber has perhaps 1,000 or 1,200 population and is a great wool market. It derives its name from the great cottonwood trees along the three rivers which unite here.

Big Timber and its adjacent country are not inviting any sudden boom, her citizens being conservative, but improvements are being steadily carried on and there is no locality in Montana more worthy of the careful attention of settlers and investors.

Forsyth, county seat of Rosebud, a freight division point on the Northern Pacific Railway and the market for an exceedingly rich and extensive country is keeping pace in growth and improvements with all of Eastern Montana. The Milwaukee Railroad crosses the river within seven blocks of the center of the town, thus affording excellent transportation service.

Many extensive irrigation enterprises about the town insure its future progress and its present population to 1,500 to 1,800 will be materially increased.

The little city of Glendive has witnessed stirring events during the past two years as the great irrigation works on the Lower Yellowstone and the occupation of dry lands as well has brought settlers, investors and armies of busy toilers into the surrounding country. A prosperous community of 3,500 inhabitants, the town possesses public utilities, including water works and electric lights. In the heart of a rich grazing country, Glendive was for many years a typical frontier cattle town, but the change has been rapid and thorough.

Prepartory work for a branch railroad from Glendive to Mondak, traversing the scene of the great reclamation works and connecting the Great Northern and Northern Pacific, is now going forward. The completion of this road will advance the growth of the city wonderfully.

Hamilton, the Queen City of the Bitter Root Valley, has lately taken on new life and a number of business blocks and many new residences are being erected. Features of the town are the vast estate of the late Marcus Daly, the sawmill and factories of the Anaconda Copper Mining Company, and the magnificent fruit and grain farms of the valley. Here also are the headquarters of the Bitter Root District Irrigation Company, which is reclaiming thousands of acres of bench lands, now wholly unproductive from lack of water.

Hamilton is one of the most desirable residence towns in the State. The climate is mild and equable, especially in winter, water is of the very best and the scenic beauties of the valley are magnificent.

The sleepy old town of Deer Lodge, the one-time capital of the State in stage-coach days, has been shocked and hustled into active life, altogether curious to the "old-timers," by chattering "dagoes" and snorts of steam shovels, both of the latter being in the employ of the Chicago, Milwaukee & St. Paul Railway construction department, which has here established a division point. The citizens of the town donated $22,000 which purchased 172 acres of land on which is being built a 15-stall roundhouse, two shop buildings 135x160 feet each; transfer building, 60x180 feet, equipped with

traveling cranes and derricks to move largest engines to any part of the s' buildings: a power house 36x60 feet, a storehouse 30x120 feet, with an upstairs for offices: and independent freight house and a separate building for passenger depot, both frame but modern. About 100 railway men will be employed at once and the force will ultimately run from 300 to 400 men. The present population of the town is about 1,300, which will undoubtedly grow to 3,500 or more in the next two years.

Deer Lodge is a renowned educational center, having the College of Montana, which is the pioneer of all similar institutions in the State; an extensive Sisters' School and an accredited high school. All these have splendid buildings and are crowded with students.

The State Penitentiary is also located at Deer Lodge and is a model reformatory. Many new residences and business buildings are the result of the recent activity in railroad circles, and the old town may be safely reckoned as a "comer."

With the agitation of the great waterways movement, attention is being again called to the old, picturesque town of Fort Benton, at one time perhaps the most important town in the Territory as the head of navigation and the supply depot for much of the Northwest country.

The little city occupies a beautiful location on the Missouri River and is the market for a great stock and agricultural district. Development of the stream would at once place the town in the front rank as a commercial center, and restore its unique position as Montana's most inland seaport.

Few towns are blessed with so clean and wholesome a social life as Benton. It is a characteristically old-time place, with the polish and refinement that education and prosperity bestows.

The population is made up largely of those who have moved from the ranch to town to give the children the advantages of school and the conveniences of urban life.

Other places of importance are Columbus, with its great stone quarries; Belgrade, one of the largest grain shipping points in the State; Manhattan, a near rival of Belgrade; Townsend, the center of a rich farming and dairying country; Philipsburg, once a great silver mining camp; White Sulphur Springs, famous for its medicinal waters; Plains and Thompson, farming and lumber centers; Columbia Falls, the location of the Soldiers' Home and possibly the most beautiful townsite in the State on the banks of the Flathead River. Whitefish, a passenger division on the Great Northern Railway, a place of 1,500 people, or more, who cruise and fish on the beautiful waters of the lake of the same name which skirts the western edge of town. Lumbering is important business there. Eureka, at the entrance of the famous Tobacco Plains country which strtches far to the north across the boundary into Canada, with its salubrious climate and productive soil, large timber surrounding it and a place for the vacations of sportsmen. Libby, one of the older towns of Flathead county, congenially located, boasting of her equable and healthful climate, the supply point for the mines in the Cabinet range of mountains, large saw mills and altogether a place worth living in. In Jefferson county is Whitehall, the entrance to the beautiful

Ruby Valley in the center of which are the model and thriving towns of Twin Bridges, where is located the State Orphans' Home, and Sheridan, the most delightfully located place of its size on the east side of the Rocky Mountains. Following up the valley to its junction with famous old Alder Gulch, is the town of Ruby, the headquarters of the Conrey Placer Mining Company, which has been turning farms into mines for ten years and is the most successful gold dredging enterprise in the whole Northwest. At the head of the gulch is Virginia City, a landmark of pioneer civilization in Montana and once the capital city, now mining by electricity. The picturesque little town of Pony, across the mountains from its county seat of Virginia City, is half miner and half farmer, apparently in doubt which to pay her best respects to. Railroad communication is had from Sappington. Three Forks, an old time stage station, in a bran new "Milwaukee" dress, is now a freight division of this railroad and is located at the source of the mighty Missouri. In September, $72,000 worth of town lots were sold here at public auction by the townsite company. Many miles from here to the northeast on the Milwaukee road is the comparatively new town of Harlowton, also a division point on this railroad, which lies in the center of one of the greatest stock raising districts in the State along the Musselshell River, and is characterized by the many new residences and business houses that have gone up in the last two years, after having once been burned to the ground, and the enormous volume of business transacted for a place of its size. Then to the east is the new coal camp of Roundup, from whence the fuel supply of the Milwaukee is taken, with a population of something like 800 people. And not the least of these by any means is the pretty little town of Choteau, the county seat of Teton county, where not long hence big things will be doing when rail transportation is furnished, for she stands in the midst of one of the very most productive and yet undeveloped regions of the whole State.

CLIMATE AND CHOROGRAPHY.

From its vast extent no less than by reason of varying altitudes, Montana presents extremes of climate which precludes the possibility of detailed description in any other manner than by meteorological tables.

Occasional summers are hot and very dry, but such seasons are generally forerunners of cooler periods and heavier precipitation. The spring months are, as a rule, rainy and backward, thus making the growing season comparatively short, though there is plenty of time for every northern grown crop to mature in perfection. During the summer and fall, often extending well into winter, Montanans experience weather that is simply perfection. The bright sunshine and dry, bracing air, when once enjoyed, can never be forgotten. The average yearly precipitation during the time records have been kept is about 16 inches throughout the State, though this varies noticeably both in localities and years. Complete tables of temperature and precipitation for the year 1907 will be found in the latter part of this report.

Old timers are fond of saying that there has been a great change in the climate from former years, and while the records do not wholly bear out this statement, judging entirely by averages, it is absolutely certain that many long trips by sleighs that were commonly depended on in early days are now utterly impossible by lack of necessary snow.

During the entire winter of 1907-8 there was very little snow, no cold weather and no bad storms throughout the State, but a considerable section of country along the Missouri river and its tributaries was, during forty days in the spring of 1908, flooded with rains, and vast damage to property resulted.

Thus the average for a series of years is maintained, while the claims of changes in climatic conditions are equally justified.

Montana is not tropical. Her northern boundary extends for 552 miles along the Canadian line, the elevations varying from the low-lying basins of the Missouri and its tributaries to the high peaks of the Rocky mountains, and the temperature varies principally with the elevations. Some sections experience extremely hot weather during summer, with snow and bitter cold in winter. Some are subject to high winds, and scanty rainfall; others mature all crops without irrigation. There is no hard and fast rule. Montana is a northern state and subject to severe climatic changes, but taken as a whole, it has a most exhilarating and healthful climate. There are no tornadoes or cyclones and fatal cases of sunstroke are almost unknown. Favorable locations may be found to suit all requirements of health and comfort, with many attractions and opportunities not prevalent in other states. Thermal and medicinal springs abound, easily accessible and well appointed. Indeed, thousands of people have come to regard Montana as an ideal summer resort.

The northeastern corner of the State is occupied by Valley county, a region of rolling hills, fertile, wooded bottoms and vast prairies. The long dominant stockgrowing interests are now being surpassed by agricultural development, though much of this portion of the State as far south as the water shed between the Missouri and Yellowstone will always remain preeminently grazing land. To the north of the river and west of the town of Culbertson there are vast tracts of arable land available for homesteads and destined to become very valuable as agricultural land under dry farming methods. Hundreds of new settlers make this country a scene of busy industry.

Further west, though still in Valley county begins the well-known Milk River Valley, with Malta the headquarters of the great Government reclamation project, which will irrigate 165,000 acres of the very finest land in the whole northwest. The average yearly rainfall in this section is about 14 inches. There are thousands of acres of bench land here, with rich clay and sandy soil from two to ten feet deep, open for homestead entry. There is still some land to be had under the reclamation canal, but the larger part is already in private ownership. Here also is the great Fort Peck Indian Reservation, which is marked for opening in the course of a very few years. All Northeastern Montana is a country of magnificent distances, with limited railroad facilities, though much improvement in this direction is contemplated.

Teton and Chouteau counties lie east of the Teton and north of the Belt Mountains. These two counties are larger than the states of Connecticut, Rhode Island, New Hampshire and Vermont combined. Naturally in such an area there is a difference in the amount of precipitation in localities. More than a million acres will be under irrigation during the next ten years and time will also develop a vast amount of land adapted to dry land farming, but at the present there is reason to doubt whether, taking it for a term of years together, there is sufficient rainfall to justify the experiment of settlement in all parts of the country north of the Great Northern Railroad from Shelby on the west to the east line of Chouteau county. For thirty miles to the east of the Teton mountains, however, there is little doubt that dry land farming will prove a success.

The climate of these two counties is distinctly northern in character and averages the most rigorous in the State, but not in any sense prohibitive, it being more like North Dakota.

Taken as a whole there are thousands of acres in this territory that will be farmed according to "above the ditch" methods and there is no doubt that in the coming years this section will witness large increase in population and most wonderful advance in wealth production. The inducements are of a superior kind. The population is sparse, the soil deep and fertile.

The normal rainfall of about 14 inches is supplemented by a system of reservoirs so constructed as to use the water over and over again upon successively lower levels, thus insuring a crop at very little cost for irrigation. Land varies greatly in value, ranging from $3.50 for grazing lands upward

as high as $50 an acre for improved farms. The majority of it is held at a surprisingly low figure when its character and possibilities are taken into consideration.

In this territory there are no railroad lands. The district also contains the Fort Belknap and Blackfeet Indian Reservations, all or the greater part of which will eventually be opened for settlement. There are many private and co-operative irrigation companies, although the land supplied by these is nearly, if not entirely, in private ownership. Many fine veins of coal are found, and the cyanide mines of the Little Rockies district in Chouteau county are rapidly bringing that county into the first rank of gold producers in the State.

Beyond Teton county lies the main range of the Rocky Mountains, and on their western slope begins the marvelous valley of the Flathead. Here are found the highly developed grain farms and productive orchards which have added greatly to Montana's agricultural reputation. Originally all of Montana west of the Rocky Mountains was included in Missoula county, but from time to time new counties have been created until there are now four, Flathead, Missoula, Ravalli and Sanders. The climate of the entire district is mild and salubrious, and together with the rich soil produces everything grown in any northern latitude, these counties constituting the basis of the State's orcharding renown. Owing to the vast reserves which have been created for the preservation of the forests in which this territory abounds, together with the State's land holdings and the railroad lands now withdrawn from market, there is but little opportunity for new settlers. There is good land to be had however, and when cleared and under cultivation there is no better to be found. The elevation is not great; climate is mild and equable; water is the finest and purest: power is cheap and plentiful; markets and railroad service good; church and school facilities of the very best, so that the whole district constitutes one of the superior residence portions of the entire State.

Coming east through the center of the State there are Granite, Deer Lodge and Powell counties, each with varied attractions in the way of lumbering, mining and stock raising oppotunities, and rich with undeveloped resources in land culture and dairying. The elevations are greater, but the climate is not severe. Water is good and abundant.

Silver Bow, to the south, is the mining district par excellence of the State, and though some crops are grown, it does not offer any special inducements to agricultural settlement.

Lewis and Clark, Jefferson and Broadwater counties are next, and all teeming with opportunities. Contiguous to the large cities, and finding there a ready, high-priced market for all the farm produce raised, there is still a call for thousands of dollars worth of hay, grain, fruit, vegetables, eggs and poultry. There are large valleys tributary to Butte, Anaconda and Helena, whose chief product is now irrigated wild hay. Here are the makings of hundreds of profitable truck, poultry and dairy farms, and the land is cheap.

Lewis and Clark county contains the Dearborn Irrigation project, the

land being reclaimed by the State under the Carey Land Act, and sold with perpetual water right for $20.50 an acre. Some of this land is worth now more than the price asked.

All these counties offer the very best church and school privileges and constitute a most desirable home-making region.

Cascade, Meagher, Sweetgrass, Fergus and Yellowstone counties comprise the heart of the State and contain many of its choicest possessions in natural wealth. Here are mountain, bench land, valleys and bottoms of every conceivable quality and variety, and suitable for diversified or general farming and stock growing. Meagher county is the least developed of the five, vast tracts of land in private ownership being given over entirely to grazing.

Cascade is one of the leading agricultural counties of the State, with Fergus in close company. Railroad construction on an extensive scale has opened a vast country to settlement within their boundaries, and a large influx of homeseekers is sure to follow. New towns are springing up, and enormous coal deposits are to be worked by the new railroad. In all this region there has been marked success in the cultivation of land without irrigation and thousands of acres hitherto devoted exclusively to grazing or the production of wild hay or forage crops, are now producing record-breaking grain crops on dry land farms. The success which has attended these ventures has stimulated the movement to secure homesteads and increased the selling price of all lands as well.

In Yellowstone county the agricultural development has been phenomenal, and the establishment of the beet sugar factory at Billings has caused land values to soar. Here also are the Huntley and Lower Yellowstone Government irrigation projects which have attracted attention from the entire country. On the Huntley tract there are still some lands to be had, but under the Yellowstone project nearly all the land is already in private ownership. Exhibits of fruit from this valley have taken first prize at several State fairs, and crops of all kinds from the entire district are large and abundant, the elevators and mills affording a good market with attractive prices. Wool is also a staple crop, large markets for this commodity being maintained at Great Falls, Lewistown and Billings.

In Cascade county the enormous water power of the Missouri River is to be more largely developed, and a healthy stimulus given to all manufacturing enterprises.

Sweetgrass county is also a prominent and persistent bidder for settlers and more thorough development in all lines of progress is to be looked for, as the great natural possibilities of this part of the State become better known. This is one of the best watered counties in Montana, and contains thousands of acres available to the homesteader and susceptible of being brought to a high state of cultivation. Stock raising is now the principal industry.

Dawson, Custer and Rosebud counties constitute the remainder of the central and southeast portion of the State. They are of vast extent, containing together 33,717 square miles, a territory nearly as large as the entire State of Indiana. Essentially this is a stock growing country, though to be

sure there are countless locations of fine agricultural land to be had, and some of the great Government reclamation projects are here located. In the matter of climate it is doubtful if it would be overstating it to say that the winters will average more agreeable than those of Iowa, the springs are apt to be late, but the summers are sufficiently long to mature melons, tomatoes and early varieties of corn. Fruit also does well. The residents of the section are perfectly satisfied, some of them from Iowa, but not one of them could be induced to return.

The country is generally open and rolling, with groups of high hills and bluffs along the water courses. There are also several extensive tracts of timber, Custer county having three National Forest Reserves. The natural conditions for conducting the livestock business are rather exceptional and many very large tracts of land are already in private ownership, with fences miles in extent enclosing them. There is less water available for irrigation purposes than in other portions of the State of like area, and the contours of the district do not lend themselves readily to such enterprises except in the immediate vicinity of the larger streams. These lands, to the extent of thousands of acres, are now withdrawn from settlement for Government irrigation projects.

The opening of the Crow Indian Reservation attracted many prospective settlers. Arrangements are rapidly being perfected whereby all adverse conditions to settlement will be removed and extensive development of this really great district will surely follow.

Next, to the west, comes Carbon, Park and Gallatin counties, famous not alone for the great veins of splendid coal, but until this year Gallatin has been regarded as the chief granary of the State, though the others have an enviable reputation, and produce wonderful crops. In Carbon the climate permits fruit of all kinds to mature in perfection, and here there are some most profitable orchards. Lands for homesteading are not to be had except at considerable distances from railroad markets, although this does not prevent many locations from having great intrinsic value as stock and dairy farms. There are large areas of mountainous and heavily timbered country, though the valleys are extensive and extremely fertile.

Opportunities for the development of electricity by water are very plentiful, and a number of plants are now in successful operation. Suburban electric roads would do great work in pushing this district to the front, and the need of them will doubtless lead to their construction in the near future. Rainfall is greater here than it is farther east, and while irrigation has been followed for many years the great grain crops of Gallatin are grown with only the natural supply of moisture from rain. The remaining counties, Madison and Beaverhead, occupy the southwestern corner of the State, and they offer attractive inducements to those who are able to buy improved land. Magnificent climate, fruitful soil, pure and abundant water, with an extensive and comprehensive social and civic development, make a most desirable environment. Mining, farming and stock growing constitute the principal occupation of the prosperous and contented populace of this district, and there is room for thousands more.

FOR THE PROSPECTIVE SETTLER.

The Bureau of Agriculture, Labor and Industry is not and has not been an immigration bureau since 1897; nor is there any department of the State Government which has authority to assist or promote immigration to this State. There is no possible way by which definite or useful information concerning the location of available lands for homesteading can be furnished to prospective settlers. The general land office at Washington, D. C., will furnish, upon application, a list of unoccupied lands, but this gives simply the section, township, range and land district, affording little if any information to the settler. All public lands are administered through the local United States land offices, of which there are nine in various parts of Montana.

In filing upon a homestead the settler must be able to describe by metes and bounds the land he desires to locate, and be able to swear that he has actually been upon and inspected it for himself. Having complied with these simple rules, recording the location is only a matter of filling out the necessary blanks in the land office. It is very evident then, that the required details and qualification to make oath of personal inspection cannot be acquired through correspondence.

Each county in the State has a County Surveyor, who can be secured to assist in a land cruise in most instances, but by far the larger part of locations made come through information secured from men who have already located and who are willing to assist a newcomer in finding the necessary corners to properly describe his claim.

Caution should be observed in locating section lines and corners, which are all plainly marked where government surveys have been made. Upon unsurveyed land the settler merely obtains squatters rights which may or may not prove valuable when the survey is made. Care should be observed that the land selected is not on Sections 16 or 36, which are school lands; nor on odd numbered sections within the railroad land grants (which extend for 50 miles each side of the Northern Pacific Railway). The character of the soil timber or coal for fuel, water for domestic use, rainfall and many other details are essential adjuncts in making a home and should be carefully considered. Then methods of farming are in striking contrast to what the new settler has been accustomed in his old home, whether water is used or not..

Two plans are suggested by which much valuable information may be obtained and the chances for securing a location offering the greatest opportunities for success materially increased. When there is any considerable number of persons in a locality who desire to come to Montana it is wise to select one or more of the group to make a trip of inspection in advance of the others and, at common expense, to gather information concerning the new home.

This will, in all cases, be money and time well expended. Where such a course is impossible, the cheapest and wisest method for the newcomer is to secure employment for a season or two with a practical dry farmer, or with an irrigationist, from whom may be learned details of methods invaluable in setting up the new farm later. In this way time may be found to inspect the country for many miles for suitable unappropriated lands upon which a location may be made, besides acquiring full knowledge at first hand of climatic, social and educational conditions prevailing in the district, with the opportunity of deciding upon their suitability before investing. Information of this character cannot possibly be imparted by means of either books or correspondence.

Also bear in mind that there is no land given away in Montana. It must all be paid for either in residence and cultivation or in cash by commutation on the homestead, and to the State or the United States for land under reclamation projects. Even in the lotteries held at the opening of Indian Reservations, the Indians must be paid by the settlers four dollars an acre for their land. The so-called free land under the Homestead Act [illegible]

ERRATA.

Since this report was printed the Legislature has enlarged the duties and powers of the Bureau to include those of a Publicity, or Immigration Bureau.

Experiment Station, Bozeman, Montana, and will be sent to any address upon application.

This bulletin contains all the results of experiments in dry farming to date in this and other states, a full exposition of the methods and the necessary implements, the kind of crops and amount of seed to sow, together with many other things of interest and profit to the newcomer. Its publication marks a new era in handling and subserving the interests of settlers on the part of the State, which must prove of incalculable value in directing their efforts toward success.

For those whose attention is directed toward irrigated farms the two points of advice heretofore mentioned apply with equal force.

Personal investigation before purchasing land anywhere and, if possible, a season or more of working for a successful irrigator cannot be overestimated as factors in making a profitable selection.

There are several methods of obtaining irrigated land aside from private purchase from individual owners. First, there are the great Government irrigation projects. Here there is no opportunity for commutation, as the

full five years residence is required. Two of these projects, the Huntley and the Fort Shaw, are now ready for settlers. Headquarters for the Service in Montana have been recently established at Helena, and full information regarding purchase, prices and payments, and all other conditions may be had free upon application to Mr. H. N. Savage, engineer in charge, of that city.

Land reclaimed upder the supervision of the State is also now open for sale and settlement, offering splendid opportunities for securing good land and perfect water rights upon easy payments. Information concerning these projects may be had by writing to the State Engineer, Helena, Montana.

Both the Government and State irrigated lands will rapidly advance in value under cultivation, and should not be overlooked by investors and settlers. With a never failing water supply, the management and ownership of which reverts in fee simple to the land owners whose only expense, aside from initial cost, is that of maintenance, these locations are proving very attractive, and will be rapidly taken advantage of.

Aside from the Government and State projects mentioned, there are a number of private enterprises, now engaged in constructing canals to place water upon some of the most desirable land in the State. These the Bureau has consistently refrained from endorsing officially for many reasons. However, the customary caution to personally investigate before purchasing is emphatically repeated. So far as is known the land and water conditions upon these private undertakings are of the very best, and the prices asked are not exorbitant, but there are always the questions of climate, rainfall, markets and, above all, ownership of water supply, to be considered and decided upon. The last named consideration is of the utmost importance, for no matter how good the land and how favorable all other surrounding details, unless the purchaser receives an absolute title to necessary water for irrigation, and unless the exclusive ownership of the source of the water and the canals and works for bringing it to the land passes, upon payment of the price agreed upon, from the seller of the land to the purchaser, a grave mistake has been made. There must be no divorce between land and water. The man who owns one must own in fee simple or cooperatively, the other. If the company which originally owns both land and water sells only the former, retaining control of the latter, the purchaser of such land simply contracts to purchase necessary water from year to year until the end of time. There is no record of the success of such an enterprise, except with tenant famers or slaves.

There is no such difficulty with Government or State enterprises. Here an association is formed before the project is undertaken. Owners of land receive a stock certificate of membership, and when the land is paid for the irrigaton works become the actual property of the association, the shares of stock determining the value of each land owner's holdings.

If the private enterprise has this, or a similar plan, well and good, but beware of the company, if there be such, which proposes to retain control of water. No honest promoter can afford to object to the closest scrutiny of his proposition and the buyer owes it to himself to thoroughly investigate before purchasing. When this is done and all pertinent knowledge is obtained in

advance, the investor cannot go far wrong in buying Montana agricultural lands at their present valuation. There is, however, one other matter to be considered, which is, that owners of property in other states should not be in too much of a hurry to dispose of their present holdings to try fortune in a new state. Montana with all its glorious opportunities has a normal percentage of drawbacks and failures. Success demands energy, determination and a willingness to learn, besides brains and capital.

There are those who come seeking employment. This includes all sorts and conditions of men, making it almost an impossibility to frame an intelligent description of conditions or to give any advice of value to these people. Montana is not a manufacturing state. There are no factory towns and no employment for those accustomed to factory work. The principal occupations, aside from common and farm labor, are railroading, mining and smelting of ores and lumbering. The normal supply of labor for these industries has never failed, and there is always a generous percentage of unemployed. Only on railroad construction, irrigation works and power plants has there ever been occasion for the importation of any considerable number of common laborers. The same conditions apply here as elsewhere. Some men come and find employment at once; others search the State over without success. It is perhaps no harder to find a job in Montana than anywhere else, but it is certainly no easier, and the wise seeker is willing to take any honest opening. In construction gangs common labor now receives about $1.50 a day, paying $5.00 a week for board. About the cities the wages for laborers are somewhat higher, but work is not steady, and the cost of living is high. While the enormous extent of railroad construction brought a large number of laborers into the State during the past two years, its practical completion and the industrial depression of 1907 combined to throw hundreds of these men into idleness, while the companies seized the opportunity to reduce the wages of such as were retained.

There are a great many men constantly employed in the building trades, but in these industries the high wages and short hours established and maintianed through union organizations have brought together what is undoubtedly the most competent and productive body of skilled workers in the United States. Neither unions nor employers will tolerate incompetency and there is absolutely no place for cheap "handy men" in the building trades.

Mechanics in other states will readily recognize what this means and govern themselves accordingly. While wages and hours may be attractive, it must also be remembered that the cost of living is much higher in consequence, and that these expenses continue while the newcomer is idle and looking for employment.

THE WATERWAYS MOVEMENT.

No natural resource of this State bears so potential relation to her future greatness as do the great rivers lying wholly or in part within her borders. There has been some noticeable efforts to utilize the countless thousands of horsepower in these rivers and streams, but when output is compared with possibilities, the imagination is staggered.

The opportunities for profitable industry with cheap and abundant power cannot be estimated; with absolute certainty it may be predicted that time will bring these great sources of wealth and production into life and activity. Co-incident with this development, and vitally affecting it from the very beginning, is the tremendous problem of transportation. Even the moderate progress which has so far marked the exploitation of natural resources here has warranted the construction of a new transcontinental railroad and the double-tracking and extension of the older roads. Still transportation facilities are inadequate even under present conditions, and the future holds still greater problems.

Undoubtedly, if Montana is to achieve industrial distinction, there must be cheap and adequate facilities for moving products, which are not now provided, and which, furthermore, are not to be reasonably expected from either existing or proposed railroads. If the people of Montana wish their state to grow; if they are dissatisfied with the present rate of progress; if they have wondered that so many manufacturing establishments have closed after a brief struggle for existence, let them ponder well the facts here submitted.

The average cost of moving freight per ton mile in Montana is 19.5 mills. The average cost in the United States for like service is 7.8 mills per ton mile, while the average cost to the shipper for transporting all classes of freight on the lakes and rivers of the United States is eight-tenths of one mill per ton mile. In other words, Montana shippers are paying nearly three times the average railroad rate and twenty times the average water rate of transportation.

There will be no gratifying development of industry in Montana while this condition continues and there is positively but one remedy for this blighting handicap, viz: the utilization of waterways for transportation of freight, supplemented by interurban electric railroads operated by power from the same source.

True it is that much-to-be-desired reformation is not to be brought about by Montana alone, but there can be no question of the necessity which exists—that the people of this State are vitally concerned in any and every movement tending to the rehabilitation of traffic upon waterways by deepening channels and conserving water supplies.

The rivers of no other civilized country play so small a part in the

industrial life of the nation as those of the United States. Gradually the people are waking up to this fact and the future is full of glowing promise.

Montana must take an active part in the preliminaries as well as in the work that is to come later. Provision should be made for the expenses of delegates to the various conventions held to consider this problem, and the governor should be given authority to see that the interests of the State are properly looked after at these meetings. Statistics of production and all other necessary data should be carefully compiled for the use of such representatives and others so that the claims of this commonwealth may be fully recognized at home and abroad. No reasonable expense should be spared in this preparatory work, for its fruition means untold wealth and prosperity for every section of the State.

It means relief from the terrible burden of taxation upon the entire volume of merchandise and machinery now consumed and used in the State; it means higher prices for grain, cattle and wool; it means the opening and profitable development of much of the 34,000 square miles of coal deposits; it means the establishment of factories to convert raw materials into finished products; it means a revolution in methods whereby Montana is milked of her natural prerogatives in a degree that is not only astonishing but wholly unnecessary and reprehensible.

For example: Montana produces about 35,000,000 pounds of wool a year, but does not manufacture a single ounce of woolen yarn or goods; pays $1.50 a hundred pounds for freight on this product to Boston, of which not less than $300,000 is paid on grease and dirt. Montana produces approximately 150,000 tons of copper each year upon which she pays an average of $9.50 a ton freight to get the product to the New Jersey refineries. Not an ounce of copper wire or utensils is manufactured. With coal lands of greater area than the entire state of Indiana, Montana produces a scant half of the coal needed for domestic consumption, while millions of dollars' worth of food and clothing is brought in to supply the local demand. These are startling facts; they must appeal to thoughtful, intelligent minds, and a change from present conditions inevitably suggests itself.

The most eminent authorities assert that it will require five billion dollars to put the railroads in shape to handle the normal business of the country, to say nothing of the normal increase in tonnage, which is said to grow six times as fast as railway facilities grow. Therefore, even if it required the expenditure of two billion dollars, the people of the country would still be gainers, for no matter what amount is expended for rehabilitating and extending railroads, the people must pay the interest on bonds, without ownership of the roads; while with the waterways, the people themselves would receive and enjoy the whole volume of their earning capacity, less, of course, the interest on construction bonds.

These waterways would posses enormous earning capacity outside of tolls, for many dams and reservoirs would be required, furnishing thousands of horse power for sale, besides water for irrigation projects. This added to savings in freight rates would pay interest and profits on a much larger sum than will be required to complete the work.

LANDS.

GOVERNMENT LANDS.

Montana has a total area of 146,572 square miles, or 93,806,080 acres, with 770 square miles of water surface. In a general classification perhaps 30,000,000 acres may be designated as mountain land, of which 20,402,676 acres are now in forest reserves; about 45,000,000 acres are classed as grazing lands, and these possess characteristics which preclude the idea of their ever being utilized for any other purpose; the remaining land, some 18,000,000 acres, may be somewhat roughly classed as farming, though for various reasons, chiefly for lack of potable water, it is doubtful if more than two-thirds of this area can ever be profitably cultivated. This estimate then, of 12,000,000 acres of arable land in the State includes all farms now in cultivation, all that is to be reclaimed through irrigation projects, and the entire dry land possibilities.

At present there are from three and a half to four million acres under cultivation and producing crops, not including the area cut over for wild hay. It is difficult to procure figures that will show intelligently the present status of public lands owing to the constantly changing totals caused by withdrawals and restorations, but as nearly as can be ascertained the land now withheld from settlement includes the 20,402,676 acres in forest reserves less, of course, the agricultural land contained therein, which extent there is no means of learning; 9,440,800 acres in Indian Reservations; 20,480,000 of coal lands, and approximately 1,500,000 acres withdrawn for irrigation projects subject to homestead only under certain conditions.

The unsurveyed land amounts to 36,507,106 acres, while that surveyed and open for location is 16.212.282 acres. It is estimated that there are 6,000,000 acres susceptible of dry farming and that about the same area is capable of irrigation.

All business pertaining to the public lands belonging to the Government must be transacted through the United States Land Office in the district where the land is located. The various methods for obtaining a location consist of (1) homesteading; (2) timber and stone location; (3) desert claim; or (4) purchase outright. A somewhat different method is employed under the reclamation projects and at the opening of Indian Reservations.

ENTRIES AT VARIOUS LAND OFFICES IN MONTANA DURING 1908.

	Entries.	Acres.
Billings	996	99,098.06
Bozeman	920	87,298.03
Glasgow	1,420	159,685.71
Great Falls	1,908	188,804.50
Helena	2,357	269,588.87
Kalispell	537	25,434.89
Lewistown	2,808	318,561.93
Miles City	2,211	295,797.26
Missoula	856	49,782.77
Total	14,013	1,494,052.02

ORIGINAL HOMESTEAD ENTRIES, 1908.

Entered	777,455.13	Acres
Final Proofs Made	165,744.58	Acres
Commuted	52,472.53	Acres

PUBLIC LANDS UNSURVEYED.

	Acres.
Total land area of the State	93,296,640
Surveyed during 1908	1,607,965
Area unsurveyed	44,735,158

UNAPPROPRIATED LANDS JUNE 30, 1908.

	Acres.
Surveyed	20,570,256
Unsurveyed	25,962,184
Total	46,532,440

COAL LAND ENTRIES, MARCH, 1873, TO JUNE, 1908.

Number of entries	287
Acres entered	41,318.20
Amount received	$699,625.30

PUBLIC AND INDIAN LANDS ENTERED FROM 1902 TO 1908, INCLUSIVE.

	Acres.
1902	1,354,222.54
1903	1,533,205.29
1904	1,052,994.63
1905	1,086,290.05
1906	1,782,279.90
1907	1,218,780.97
1908	1,494,052.02
Total	9,521,825.40

DESERT LAND ENTRIES, MARCH, 1877, TO JUNE, 1908.

Original entries	20,341
Final entries	8,773
Original acres	4,052,099
Final acres	1,713,641
Total amount received	$2,745,431.63

TIMBER CULTURE ENTRIES, MARCH, 1873, TO JUNE, 1908.

Original entries	3,595
Final entries	406
Commuted	225
Original acres entered	486,638
Final acres proven	55,939
Commuted acres	29,044
Area of Montana, square miles, land surface	145,776
Square miles of water surface	796
Total	146,572

TIMBER AND STONE ENTRIES FROM JUNE, 1878, TO JUNE, 1908.

Total number of entries	4,129
Total number of acres	543,679.57
Total cash received	$1,359,151.58

LAND OFFICES AND DATE OF OPENING.

Billings	July 2, 1906
Bozeman	Oct. 5, 1874
Glasgow	June 1, 1907
Great Falls	Aug. 1, 1902
Helena	April 27, 1867
Kalispell	July 1, 1897
Lewistown	Nov. 26, 1890
Miles City	Oct. 19, 1880
Missoula	April 20, 1891

HOMESTEADING.

The questions most persistently asked are, "Where are the public lands of Montana located, and how can one obtain them?"

In most instances a land map is also requested. Inquirers should understand first of all that maps of all the unoccupied land are to be consulted only in United States land offices, and that the primary requisite for making

a location on any government land is a personal inspection of the tract desired, which must be described by metes and bounds when the location is made. There is public land in every county in Montana, but it is not by any means all suitable for cultivation. As a preliminary it is very often advisable that intending settlers in a community delegate one of their number to make the trip of inspection, all contributing to defray the expense. In this manner much information may be gained and some time saved. Later the individuals of the party may make personal visits to the land, thus qualifying themselves to make the proper affidavits at the land office.

The many pamphlets issued by the railroads and various local districts, together with the reports circulated by the State, give comprehensive ideas of the attractions and advantages afforded and may be relied upon as trustworthy. After these have been carefully studied there comes the necessity of making a choice as to what part of the State is to be selected for the new home. And just here it is well to remember that Montana is the third largest state in the Union, having an average length from east to west of 541 miles, while from north to south it measures 270 miles. In this immense area there is included nearly every variety of soil and climate, as well as a diversity of occupation which includes practically every avenue of human endeavor except that of extensive manufacturing.

An important matter for the homesteader to consider is the fact that unless he is prepared to pay the price asked for irrigated land on the Government projects, the only other location he can secure by homestead will be on land which must be farmed without an artificial water supply. This involves conditions so vastly different from those existing in other states that a full understanding of the approved methods of dry farming is absolutely necessary to insure success. This knowledge, however, the State is prepared in some measure to give and it will be found invaluable.

In selecting a location, persons desiring to make homested entries should first fully inform themselves as to the character and quality of the lands they desire to enter, and should in no case apply to enter until they have visited and fully examined each legal subdivision for which they make application, as satisfactory information as to the character and occupancy of public lands can be obtained in any other way.

As each applicant is required to swear that he is well acquainted with the character of the land described in his application, and as all entries are made subject to the rights of prior settlers, the applicant can not make the affidavit that he is acquainted with the character of the land, or be sure that the land is not already appropriated by a settler until after he has actually inspected it.

Information as to whether a particular tract of land is subject to entry may be obtained from the register or receiver of the land district in which the tract is located, either through verbal or written inquiry, but these officers must not be expected to give information as to the character and quality of unentered land or to furnish extended lists of lands subject to entry, except through plats and diagrams which they are authorized to make and sell as follows:

For a township diagram showing entered land, only.....$1.00
For a township plat showing form of entries, names of claimants and character of entries 2.00
For a township plat showing form of entries, names of claimants, character of entry and number 3.00
For a township plat showing form of entries, names of claimants, character of entry, number and date of filing or entry, together with topography, etc. 4.00

A list showing the general character of all the public lands remaining unentered in the various counties of the public land states on the 30th day of the preceding June may be obtained at any time by addressing the Commissioner of the General Land Office, Washington, D. C.

All blank forms of affidavits and other papers needed in making application to enter or in making final proofs can be obtained by applicants and entrymen from the land office for the district in which the land lies.

All unappropriated surveyed public lands are subject to homestead entry if they are not mineral or saline in character and are not occupied for the purpose of trade or business and have not been embraced within the limits of any withdrawal, reservation or incorporated town or city; but homestead entries on lands within certain areas (such as lands in Alaska and lands withdrawn under the reclamation act, certain ceded Indian lands, and lands within abandoned military reservations, etc.) must be entered subject to the particular requirement of the laws under which such lands were opened to entry. None of these particular requirements are set out in these suggestions, but information as to them may be obtained by either verbal or written inquiries addressed to the register and receiver of the land office of the district in which lands are situated.

How Claims Under the Homestead Law Originate.

Claims under homestead laws may be initiated either by settlement on surveyed or unsurveyed lands of the kind mentioned in the foregoing paragraph, or by the filing of a soldier's or sailor's declaratory statement, or by the presentation of an application to enter any surveyed lands of the kind.

Settlements may be made under the homestead laws by all persons qualified to make either an original or a second homestead entry of the kind mentioned in paragraphs 6 and 13, and in order to make settlement the settler must personally go upon and improve or establish residence on the land he desires. By making settlement in this way the settler gains an exclusive right to enter the lands settled upon as against all other persons, but on each of the smallest legal subdivisions desired.

A settlement made on any part of a surveyed technical quarter section gives the settler the right to enter all of that quarter section which is then subject to settlement, although he may not place improvements on each 40 acre subdivision; but if the settler desires to initiate a claim to surveyed tracts which form a part of more than one technical quarter section he should perform some act of settlement—that is, make some improvement—on each of the smallest legal subdivisions desired.

Settlement must be made by the settler in person, and can not be made

by his agent, and each settler must within a reasonable time after making his settlement, establish and thereafter continuously maintain an actual residence on the land, and if he, or his heirs or devisees, fail to do this, or if he, or his heirs or devisees, fail to make entry within three months from the time he first settles on surveyed lands, or within three months from the filing in the local land office of the plat of the survey of unsurveyed lands on which he made settlement, the exclusive right of making entry to the lands settled on will be lost and the lands will become subject to entry by the first qualified applicant.

Soldiers' and sailors' declaratory statement may be filed in the land office for the district in which the lands desired are located by any persons who have been honorably discharged after ninety days' service in the army or navy of the United States during the war of the rebellion or during the Spanish-American war or the Philippine insurrection. Declaratory statements of this character may be filed either by the soldier or sailor in person or through his agent acting under a proper power of attorney, but the soldier or sailor must make entry of the land in person, and not through his agent, within six months from the filing of his declaratory statement, or he may make entry in person without first filing a declaratory statement, if he so chooses. The application to enter may be presented to the land office through the mails or otherwise, but the declaratory statement must be presented at the land office in person, either by the soldier or sailor or by his agent, and can be sent through the mails.

By Whom Homestead Entries May Be Made.

Homestead entries may be made for a quarter section or less by any person who does not come within either of the following classes:

(a) Married women, except as hereafter stated.

(b) Persons who have already made homestead entry, except as hereinafter stated.

(c) Foreign-born persons who have not declared their intention to become citizens of the United States.

(d) Persons who are the owners of more than 160 acres of land in the United States.

(e) Persons under the age of 21 who are not heads of families, except minors who make entry as heirs, as hereinafter mentioned, or who have served in the army or navy for at least fourteen days.

(f) Persons who have acquired title to or are claiming under any of the agricultural public land laws, through settlement or entry made since August 30, 1890, any other lands, which, with the lands last applied for, would amount in the aggregate to more than 320 acres.

A married woman, who has all of the other qualifications of a homesteader, may make a homestead entry under any one of the following conditions:

(a) Where she has been actually deserted by her husband.

(b) Where a husband is incapacitated by disease or otherwise from earning a support for his family and the wife is really the head and main support of the family.

(c) Where the husband is confined in a penitentiary and she is actually the head of the family.

(d) Where the married woman is the heir of a settler or contestant who dies before making entry.

(e) Where a married woman made improvements and resided on the lands applied for before her marriage, she may enter them after marriage if her husband is not holding other lands under an unperfected homestead entry at the time she applies to make entry.

A married woman cannot make entry under any of these conditions unless the laws of the state where the lands applied for are situated give her the right to acquire and hold title to lands as a feme sole.

If an entryman deserts his wife and abandons the land covered by his entry his wife then has the exclusive right to contest the entry if she has continued to reside on the land in her own right, or she may continue her residence and make proof in the name of and as the agent of her husband, and patent will issue to him.

If an entryman deserts his minor children and abandons his entry after the death of his wife, the children have the same rights the wife could have exercised had she been deserted during her lifetime..

If a husband and wife are each holding an original entry or a second entry at the same time, they must relinquish one of the entries, unless one of them holds an entry as the heir of a former entryman or settler. In cases where they cannot hold both entries, they may elect which one they will retain and relinquish the other.

The unmarried widows of soldiers and sailors who were honorably discharged after ninety days' actual service during the war of the rebellion, or the Spanish American war, or the Philippine insurrection, may make entry as such widows, if their husbands died without making entry; but a widow may make entry in her own right as an unmarried woman, regardless of the fact that her husband may have made entry, but she cannot claim credit for her husband's service.

A person serving in the army or navy of the United States may make a homestead entry if some member of his family is residing on the lands applied for, and the application and accompanying affidavits may be executed before the officer commanding the branch of the service in which he is engaged.

Second homestead entries for a quarter section or a smaller legal subdivision of public lands may be made, under statutes specifically authorizing such entries, by the following classes of persons, if they are otherwise qualified to make entry:

(a) By a former entryman who commuted his entry prior to June 5, 1900.

(b) By homestead entryman who, prior to May 17, 1900, paid for lands to which he would have been afterwards entitled to receive a patent without payment, under the "Free Homes Act."

(c) By any person who for any cause lost, forfeited or abandoned his

homested entry before February 8, 1908, if the former entry was not canceled for fraud or relinquished for a valuable consideration.

(d) Any person who has already made final proof for less than 160 acres under the homestead laws may, if he is otherwise qualified, make a second or additional homestead entry for such an amount of public lands as will, when added to the land for which he has already made proof, not exceed in the aggregate 160 acres.

Any person desiring to make a second entry must first select and inspect the land he intends to enter and then make application therefor on blanks furnished by the register and receiver. Each application must state the date and number of his former entry and the land office at which it was made, or give the section, township and range in which the land entered was located. Any person mentioned in paragraph (c) above must show, by the oaths of himself and some other person or persons, the time when the former entry was lost, forfeited or abandoned, and that it was not canceled for fraud or abandoned or relinquished for a valuable consideration.

An additional homestead entry may be made by a person for such amount of public lands adjoining lands then held and resided upon by him under his original entry as will, when added to such adjoining lands, not exceed in the aggregate 160 acres. An entry of this kind may be made by any person who has not acquired title to and is not, at the date of his application, claiming under any of the agricultural public land laws, through a settlement or entry made since August 30, 1890, any other lands which, with the lands then applied for, would exceed in the aggregate 320 acres; but the applicant will not be required to show any of the other qualifications of a homestead entryman.

An adjoining farm entry may be made for such an amount of public lands lying contiguous to lands owned and resided upon, by the applicant as will not, with the lands so owned and resided upon, exceed in the aggregate 160 acres; but no person will be entitled to make entry of this kind who is not qualified to make the original homestead entry.

How Homestead Entries Are Made.

A homestead entry may be made by the presentation to the land office of the district in which the desired lands are situated of an application properly prepared on blank forms prescribed for that purpose and sworn to before either the register or the receiver, or before a United States commissioner, or a judge or a clerk of a court of record in the county or parish in which the land lies, or before any officer of the classes named who resides in the land district and nearest and most accessible to the land, although he may reside outside of the county in which the land is situated.

Each application to enter and the affidavits accompanying it must recite all the facts necessary to show that the applicant is acquainted with the land; that the land is not, to the applicant's knowledge, either saline or mineral in character; that the applicant possesses all of the qualifications of a homestead entryman; that the application is honestly and in good faith made for the purpose of actual settlement and cultivation and not for the

benefit of other persons, or corporation: that the applicant will faithfully and honestly endeavor to comply with the requirements of the law as to the settlement, residence and cultivation necessary to acquire title to the land applied for; that the applicant is not acting as the agent of any person, persons, corporation, or syndicate to give them the benefit of the land entered or any part thereof; that the application is not made for the purpose of speculation, but in good faith to obtain a home for the applicant, and that the applicant has not directly or indirectly made and will not make, any agreement or contract in any way or manner with any person or persons, corporation, or syndicate whatsoever by which the title he may acquire from the Government to the lands applied for shall inure, in whole or in part, to the benefit of any person except himself.

All applications to make second homestead entries must, in addition to the facts specified in the preceding paragraph, show the number and date of the applicant's original entry, the name of the land office where the original entry was made, and the description of the land covered by it, and it should state fully all of the facts which entitle the applicant to make a second entry.

All applications by persons claiming as settlers must, in addition to the facts required in paragraph 21, state the date and describe the acts of settlement under which they claim a preferred right of entry, and applications by the widows, devisees, or heirs of settlers must state facts showing the death of the settler and their right to make entry; that the settler was qualified to make entry at the time of his death, and that the heirs or devisees applying to enter are citizens of the United States or have declared their intentions to become such citizens, but they are not required to state facts showing any other qualifications of a homestead entryman, and the fact that they have made a former entry will not prevent them from making an entry as such heirs or devisees, nor will the fact that a person has made entry as the heir or devisee of the settler, prevent him from making an entry in his own individual right, if he is otherwise qualified to do so.

All applications by soldiers, sailors, or their widows, or the guardians of their minor children, should be accompanied by proper evidence of the soldier's or sailor's service and discharge and of the fact that the soldier or sailor had not, prior to his death, made an entry in his own right. The application of the widow of the soldier or the sailor must also show that she has remained unmarried, and applications for children of soldiers or sailors must show that the father died without having made entry, that the mother died or remarried without making entry, and that the person applying to make entry for them is their legally appointed guardian.

Rights of Heirs Under the Homestead Laws.

If the homestead settler dies before he makes entry, his widow has the exclusive right to enter the lands covered by his settlement, and if there be no widow, then any person to whom he has devised his settlement rights by proper will has the exclusive right to make the entry; but if the settler dies leaving neither widow or will, then the right to enter the lands covered

by his settlement passes to the persons who are named as his heirs by the laws of the state in which the land lies. The persons to whom the settler's right of entry passes must make entry within the time named in paragraph 4 or they will forfeit entry after that time if no other qualified person has applied to enter the lands.

If a homestead entryman dies before making final proof, his rights under his entry will pass to his widow; but if there be no widow and the entryman's children are all minors, the right to a patent vests at once in them, or the lands may be sold for their benefit in the manner in which other lands belonging to minors are sold under the laws of the state or territory in which the lands are located.

If the children of a deceased entryman are not all minors and his wife is dead, his rights under his entry pass to the person to whom such rights were devised by the entryman's will, but if an entryman dies without leaving either a widow or a will and his children are not all minors, his rights under his entry will pass to the persons who are his heirs under the laws of the state or territory where the lands are situated.

If a contestant dies after having secured the cancellation of an entry of any kind, his right as a successful contestant to make entry passes to his heirs: but if a contestant dies before he has secured the cancellation of the entry he has contested, his heirs may continue the prosecution of his contest and make entry if they succeed in securing the cancellation of the entry contested.

No foreign-born person can claim rights as heirs under the homestead laws unless they have become citizens of the United States, except that aliens who have declared their intentions to become citizens may make entry as the heirs or devisees of settlers or contestants.

Minor children of soldiers or sailors who have been honorably discharged after ninety days' actual services during the war of the rebellion, the Spanish-American war, or the Philippine insurrection, may make a joint entry, through their guardian, if their fathers failed to make homestead entry and their mothers have died or remarried without making entry after their father's death.

Residence and Cultivation.

Residence and cultivation are required by the homestead law to the exclusion of a home elsewhere, and continuous annual cultivation of some portion of the land. A mere temporary sojourn on the land, followed by occasional visits to see it once in six months or oftener, will not satisfy the requirements of the homestead law, and may result in the cancellation of the entry.

No specified amount of either cultivation or improvements is required, but there must in all cases be such continuous improvement and such actual cultivation as will show the good faith of the entryman. Lands covered by homestead entry may be used for grazing purposes if they are more valuable for pasture than for cultivation of crops. When lands of this character are used in good faith for pasturage actual grazing will be accepted in lieu of actual cultivation. The fact that lands covered by homestead entries

are of such a character that they can not be profitably cultivated or pastured will not be accepted as an excuse for failure to either cultivate or graze them.

Actual residence on the land entered must begin within six months from the date of all homestead entries, except additional entries and adjoining farm entries of the character mentioned in paragraphs 14 and 15, and residence with improvements and annual cultivation, must continue until the entry is five years old, except in cases hereafter mentioned; but all entrymen who actually resided upon and cultivated lands entered by them prior to making such entries may make final proof at any time after entry when they can show five years' residence and cultivation.

Under certain circumstances leaves of absence may be granted in the manner pointed out in paragraph 36 of these suggestions, but the entryman can not claim credit for residence during the time he is absent under such leave.

Residence and cultivation by soldiers and sailors of the classes mentioned in paragraph 5 must begin within six months from the time they file their declaratory statements regardless of the time when they make entry under such statement, but if they make entry without filing a declaratory statement, they must begin their residence within six months from the date of such entry, and residence thus established must continue in good faith, with improvements and annual cultivation for at least one year, but after one year's residence and cultivation the soldier or sailor is entitled to credit on the remainder of the five-year period for the term of his actual naval or military service, or if he was discharged from the army or navy because of wounds received or disabilities incurred in the line of duty he is entitled to credit for the whole term of his enlistment.

A soldier or sailor making entry during his enlistment in time of peace is not required to reside personally on the land, but may receive patent if his family maintain the necessary residence and cultivation until the entry is five years old or until it has been commuted, but a soldier or sailor is not entitled to credit on account of his military service in time of peace.

Widows and minor orphan children of soldiers and sailors who make entry as such widows and children must begin their residence and cultivation on the lands entered by them within six months from the dates of their entries or the filing of declaratory statement, and thereafter continue both residence and cultivation for such period as will, when added to the time of their husbands' or fathers' military or naval service, amount to five years from the date of the entry, and if the husbands or fathers either died in the service or were discharged on account of wounds or disabilities incurred in the line of duty, credit for the whole term of the enlistment, not to exceed four years, may be taken, but no patent will issue to such widows or children until there has been residence and cultivation by them for at least one year.

Persons who make entry as heirs of settlers are not required to both reside upon and cultivate the land entered by them, but they must within six months from the dates of their entries begin, and thereafter continuously

maintain either residence or cultivation on the land entered by them for the required five-year period, unless their entries are sooner commuted.

The widow, heirs or devisees of a homestead entryman who dies before he earns patent are not required to both reside upon and cultivate the lands covered by the entry, but they must within six months after the death of the entryman, begin either residence or cultivation on the land covered by the entry, and thereafter continuously maintain their residence or cultivation for such a period of time as will, when added to the time during which the entryman complied with the law, amount in the aggregate to the required five years, unless they sooner commute the entry.

Homestead entrymen who have been elected or appointed to either a federal, state, or county office after they have made entry and established an actual residence on the land covered by their entries, are not required to continue such residence during their term of office, if the discharge of their bona fide official duties necessarily requires them to reside elsewhere than upon the land; but they must continue their cultivation and improvements for the required length of time.

A person who makes entry after he has been elected or appointed to office is not excused from maintaining residence, but must comply with the law in the same manner as though he had not been elected or appointed.

Neither residence nor cultivation is required on lands covered by an adjoining farm entry, or an additional entry of the kinds mentioned in paragraphs 14 and 15; but a person who makes an adjoining farm entry is not entitled to a patent until he has continued his residence and cultivation for the full five years on the adjoining lands owned by him at the time he made entry or on the lands entered by him, unless he sooner commutes his entry after fourteen months' residence on either the entered lands or the adjoining lands owned by him.

A person who has made an additional entry for lands adjoining his original entry is not entitled to a patent to the lands embraced in his original homestead entry, but if he has earned a patent under his original entry at the time he makes his additional homestead entry he is entitled at once to a patent under the additional entry.

Neither residence nor cultivation by an insane homestead entryman is necessary if such entryman made entry before he became insane and complied with the requirements of the law up to the time his insanity began.

Leaves of Absence.

Leaves of absence for one year or less may be granted to entrymen who have established actual residence on the lands entered by them in all cases where total or partial failure or destruction of crops, sickness, or other unavoidable casualty has prevented the entryman from supporting himself and those dependent upon him by cultivation of the land.

Applications for leaves of absence should be addressed to the register and receiver of the land office where the entry was made and should be sworn to by the applicant and some other disinterested person before such register and receiver or before some officer in the land district using a seal and authorized to administer oaths, except in cases where through age, sickness,

or extreme poverty the entryman is unable to visit the district for that purpose, when the oath may be made outside of the land district. All applications of this kind should clearly set forth:

(a) The number and date of the entry, a description of the lands entered, the date of the establishment of his residence on the land, and the extent and character of the improvements and cultivation made by the applicant.

(b) The kind of crops which failed or were destroyed and the cause and extent of such failure or destruction.

(c) The kind and extent of the sickness, disease, or injury should be furnished.

(d) The character, cause, and extent of any unavoidable casualty which may be made the basis of the application.

(e) The dates from which and to which the leave of absence is requested.

Commutation of Homestead Entries.

All original, second, and additional homestead and adjoining farm entries may be commuted, except such entries as are made under particular laws which forbid their commutation.

When actual residence was established within six months from the date of any entry made before November 1, 1907, and thereafter continuously maintained with improvements and cultivation until the expiration of fourteen months from the date of the entry and in cases where there has been at least fourteen months' actual and continuous residence and cultivation on any land covered by any entry made after November 1, 1907, the entryman or his widow, heirs, or devisees may obtain patent by proving such residence and cultivation and paying the costs of such proof, the land office fees, and the price of the land, which is $1.25 per acre outside of the limits of railroad grants and $2.50 per acre for land within the granted limits, except as to certain lands which were opened under statutes requiring payment of a price different from that here mentioned.

Homestead Final and Commutation Proof.

Either final or commutation proof may be made at any time when it can be shown that residence and cultivation have been maintained in good faith for the required length of time, but if final proof is not made within seven years from the date of a homestead entry the entry will be cancelled unless some good excuse for the failure to make the proof within seven years is given with satisfactory final proof as to the required residence and cultivation made after the expiration of seven years.

By Whom Proof May Be Offered.

Final proof must be made by the entrymen themselves, or by the widows, heirs, or devisees, or executors, except in the following cases:

(a) If an entryman becomes insane after making his entry, patent will issue to the entryman on proof by his guardian, or other legal representative, that the entryman had complied with the law up to the time his insanity began.

(b) If any person has made a homestead entry and afterwards died while he was serving as a soldier or a sailor during the Spanish-American war or the Philippine insurrection, patent will issue upon proof made by his widow, if married, or in case of her death or marriage, then his minor orphan children, or his, her, or their legal representatives.

(c) Where entries have been made for minor orphan children of soldiers or sailors, proof may be offered by their guardian, if any, if the children are still minors at the time the proof should be made.

(d) When an entryman has abandoned the land covered by his entry, and deserted his wife, she may make final or commutation proof as his agent, or, if his wife be dead and the entryman has deserted his minor children, they may make the same proof as his agent, and patent will issue in the name of the entryman.

(e) When an entryman dies leaving children, all of whom are minors, and both parents are dead, the executor or administrator of the entryman, or the guardian of the children, may, at any time within two years after the death of the surviving parent, sell the land for the benefit of the children by proper proceedings in the proper local court, and patent will issue to the purchaser; but if the land is not so sold patent will issue to the minors upon proof of death, heirship, and minority being made by such administrator or guardian.

How Proofs May Be Made.

Final or commutation proofs may be made before any of the officers mentioned in paragraph 16 as being authorized to administer oaths to applicants.

Any person desiring to make homestead proof should first forward a written notice of his desire to the register and receiver of the land office, giving his postoffice address, the number of his entry, the name and official title of the officer before whom he desires to make proof, the place at which the proof is to be made, and the name and postoffice addresses of at least four of his neighbors, who can testify from their own knowledge as to the facts which will show that he has in good faith complied with all the requirements of the law.

Publication Fees.

The entryman should, at any time he informs the register of his desire to make final proof, forward to the receiver sufficient money to pay the newspaper for publishing the notice, which fees will not exceed the fees provided by the state laws for the publication of legal notices of a similar kind. If the entryman does not forward the money to pay these fees, he may forward a statement for the publisher of the paper, in which the notice is to be published, showing that he has arranged with the publisher for the payment of the fees.

Duty of Officers Before Whom Proofs Are Made.

One receipt of the notice mentioned in the preceding paragraph, the register will issue a notice naming the time, place, and officer before whom the proof is to be made and cause the same to be published once a week for

five consecutive weeks in a newspaper of established character and general circulation nearest the land, and also post a copy of the notice in a conspicuous place in his office.

On the day named in the notice the entryman must appear before the officer designated to take proof with at least two of the witnesses named in the notice; but if for any reason the entryman and his witnesses are unable to appear on the date named, the officer should continue the case from day to day until the expiration of ten days, and the proof may be taken on any day within that time when the entryman and his witnesses appear on the day mentioned in the notice. Entrymen are advised that they should, whenever it is possible to do so, offer their proofs before the register or receiver, as it may be found necessary to refer all proofs made before other officers to a special agent for investigation and report before patent can issue, while, if the proofs are made before the register and receiver, there is less likelihood of this being done, and there is less probability of the proofs being incorrectly taken. By making proof before the register or receiver the entryman will also save the fees which they are required to pay other officers, as they will be required under the law to pay the register and receiver the same amount of fees in each case, regardless of the fact that the proof may have been taken before some other officer.

Entrymen are cautioned against improvidently and improperly commuting their entries, and are warned that any false statement made in either commutation or final proof may result in their indictment and punishment for the crime of perjury.

Fees and Commissions.

When a homesteader applies to make entry he must pay in cash to the receiver a fee of $5 if his entry is for 80 acres or less, or $10 if he enters more than 80 acres, and in addition to this fee he must pay, both at the time he makes entry and final proof, a commission of $1 for each 40-acre tract entered outside of the limits of a railroad grant and $2 for each 40-acre tract entered within such limits. On all final proofs made before either the register or the receiver or before any other officer authorized to take proofs, the register and receiver are entitled to receive 15 cents for each 100 words reduced to writing, and no proof can be accepted or approved until all fees have been paid.

In all cases where lands are entered under the homestead laws in Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming, the commission due to the register and receiver on entries and final proofs, are 50 per cent more than those above specified, but the entry fee of $5 or $10, as the case may be, remains the same in all the states.

United States commissioners, United States court commissioners, judges, and clerks are not entitled to receive a greater sum than 25 cents for each oath administered by them, except that they are entitled to receive $1 for administering the oath to each entryman and each final proof witness to final proof testimony, which has been reduced to writing by them.

OPENING INDIAN RESERVATIONS.

THE FLATHEAD.

It is an absolute impossibility at this time to give any information whatever as to the date for opening the Flathead or any other Indian reservation in Montana. Under the rules governing such matters, the fixing of such dates rests entirely with the president of the United States. By his proclamation, which will be given to the public through the newspapers, the system by which allotments are to be made is announced. If this is by lottery, as has been universally the case for many years, the time and place at which registrations are to be made, together with all particulars connected with this feature, is given, and the time for the final drawing for locations. Until this proclamation is made, no person on earth has any knowledge of these matters.

However, the preliminary surveys, allotments and estimates on the Flathead reservation have progressed to the point where it is confidently expected that the opening proclamation will be issued during the year 1909, though conditions may arise which will occasion still further delay. Under these circumstances those who contemplate an investment of this character must patiently await the publication of the president's proclamation.

Concerning opportunities for obtaining a location on the Flathead it may be said that the surveys show a total of 250,000 acres of agricultural land 523,000 acres of grazing land that will doubtless all be thrown open for settlement. It is also possible that some portions of the land classed as grazing may prove susceptible of cultivation as dry land farms.

In the disposition of the remaining portion of the ceded reserve, 230,000 acres have been allotted among 2,420 Indians, out of 2,514 enrolled, and 35,000 acres have been withdrawn for reclamation. As nearly as can be ascertained the latter area is practically covered by Indian allotments, and there will be little if any chance for settlers to file on locations under the proposed ditches. It is also possible that further withdrawals for reclamation projects may be made.

The timber lands will not be opened for settlement, but will be sold to the highest bidder at public auction. This area is estimated at 460,000 acres.

In the southwestern portion of the reserve, 16,680 acres have been fenced for a bison range, under Government control.

The natural advantages of this section of Montana have been widely advertised, and the attention of thousands of people is anxiously fixed upon the opening. Whether all the glowing hopes that have been engendered are to be realized or not the future alone can reveal. If the possibilities of this region are equal to or even approximate all the good things said about it and are utilized by the right kind of settlers, in the proper way, there is an era

of progress and development in store for western Montana unsurpassed in the history of the State.

Hundreds of prospective settlers have already visited the reservation, familiarizing themselves with locations and conditions, and a great rush is expected at the opening.

For the information of intending settlers it may be said that farms on the reservation are only to be had under the provisions of the homestead law requiring residence for not less than five years, though commutation may be made in fourteen months. Not less than four dollars an acre must be paid for the land, this money going to the Indians.

To participate in the drawing, registration must be made in person, at the place designated in the proclamation, excepting only honorably discharged soldiers and sailors, who may register by proxy. A fixed and uniform fee of twenty-five cents is charged for making out the necessary papers at registration. The regular land office fees must also be paid, together with the first year's installment of the Indian payment, making the total cost of filing on a quarter section, $176.25. Any land remaining unlocated at the expiration of sixty days from the conclusion of drawing may be acquired under the homestead and mineral laws, as is other public land, except that the four dollars an acre must be paid.

FORT PECK.

The surveys necessary to facilitate the work of opening the Fort Peck reservation in Valley county have been carried on during 1908, and ten parties are formed to continue it during 1909. When this is completed the work of allotment will be undertaken and as soon as possible thereafter the reservation will be opened for settlement. Without doubt the lottery system will be followed here, and the same style of proclamation must determine the exact date of opening. This reservation will very quickly develop into a rich community, for there are thousands of acres that can readily be irrigated and the Government already has plans for this work. The project contains a broad, fertile valley more than 100 miles long, the greater part of which will be brought into a high state of cultivation. The soil will produce everything in the way of grasses, grain and vegetables that can be grown in any northern climate.

Townsites will be opened at Poplar, Wolf Point, Brocton, Oswego and Frazier in 1909.

THE BLACKFEET.

The preparatory work on the opening of this reservation is progressing favorably and is promised in the near future. This occupies the major portion of the north end of Teton county and extends to the Canadian line. This is the bleakest corner of the State so far as climate is concerned, but the soil is as fine as any and some good crops of wheat and oats have been raised for years, as well as more or less garden truck for local consumption. For a distance of twenty-five or thirty miles to the east of the Teton Mountains there is more rainfall than to the east of there. More or less of this country is being settled, however, all along the line of the Great Northern Railway, and the parties seem satisfied. This being true, there is no reason to expect

other than a prosperous and satisfied community on the reservation lands after water has been brought to them by the Government as it will be in the course of a couple of years. Work is now under way.

THE CROW.

By proclamation of the President, dated May 24th, 1906, about 1,100,000 acres of land in the ceded portion of the Crow Reservation in the counties of Yellowstone and Rosebud were opened to entry under the homestead laws of the United States. About 17,000 applicants registered for the drawing, which commenced on Monday, July 16, 1906. The usual system of registration and drawing was used, 125 numbers being called each day, and those desiring to enter having the right to select any land remaining unentered at the time applicant's number was called. About 200 entries were made under the registration and drawing system. All remaining lands were then opened to homestead entry to any qualified person making application. The total number of entries up to October 1, 1908, on the ceded portion of the Crow Reservation, exclusive of the Huntley irrigation project, was 875. Of this number, 160 subsequently filed relinquishments, leaving 715 existing homestead entries.

The total acreage entered was 98,340.94. The amount relinquished was approximately 21,000 acres, leaving about 77,500 acres still occupied. The entryman is required to pay $4 00 per acre and the usual land office fees for this land. One dollar per acre is paid at the time of entry, 75 cents per acre two years from date of entry and 75 cents per acre each of the three succeeding years.

The portions of this land which have been entered under the homestead laws consist mostly of the bottom lands along the Yellowstone and the Big Horn Rivers, a limited acreage of irrigable land on some of the smaller streams, and springs located in the hills in the grazing section. A considerable acreage of bench land too high to be irrigated by any contemplated irrigating system has also been entered a few miles west of the town of Hardin.

Several irrigating systems are contemplated, the principal one being the Waco Ditch, and individual ditches on the smaller creeks and streams have been constructed. The land covered by these various projects is of the very best quality, and for general agricultural purposes is not excelled by any other portion of the State.

For the past two years these homesteaders have encountered the usual difficulties that go with the opening up of a new area, but from this date forward those portions of the land which are covered by the irrigating systems will undoubtedly support prosperous communities.

On the bench lands the conditions are as favorable for dry land farming as any other portions of Eastern Montana, and the future will see much experimenting along that line.

FOREST RESERVES.

The total area now embraced in Forest Reserves in the State of Montana is 20,623,438 acres, divided among eighteen reserves. The largest is the Flathead, with 2,131,488 acres, and the smallest the Sioux, with 145,253 acres. By a recent order the bulk of the administration work of handling the reserves has been transferred from Washington to six Western districts, one of which is located in Missoula. The work is thus in charge of a local force, under the direction of a district forester, which simplifies the transaction of all business in this department. All the district officers are familiar with Western conditions and the new system is expected to do away with many complaints arising from the arbitrary actions of certain employees of the Service.

The officials in charge of District No. 1, with headquarters in Missoula, are:

W. B. Greeley, District Forester.
F. A. Silcox, Assistant District Forester.
R. H. Rutledge, Chief, Office of Operation.
R. Y. Stuart, Assistant Chief.
E. B. Quiggle, Chief, Section of Occupancy.
R. L. Campbell, Chief, Section of Maintenance.
C. H. Adams, Chief, Office of Grazing.
W. S. Perrine, Assistant Chief.
W. R. Wheaton, Chief, Office of Products.
F. I. Rockwell, Assistant Chief.
A. W. Cooper, Chief, Office of Silviculture.
D. T. Mason, Assistant Chief.
E. I. Terry, Chief, Section of Silvics.
W. T. Stone, Assistant Chief.
E. C. Clifford, Chief, Section of Planting.

The timber, water, pasture, minerals and other resources of the National Forests are for the use of the people. They may be obtained under reasonable conditions without delay. Legitimate improvements and business enterprises are encouraged.

National Forests are open to all persons for all lawful purposes. Persons who wish to make any use of the resources of a National Forest for which permit is required should consult the nearest Forest officer.

Twenty-five per cent of all receipts from National Forests are given tc the counties in which they lie, to be used for schools and roads.

The total sum accruing to Montana since the establishment of this feature of reserve management has been $102,230.48, of which $75,807.16 was for the fiscal year ending June 30, 1908.

The Tenth Legislative Assembly made distribution of the money so received for the year 1907 as shown herewith:

	Per Cent.
Flathead County	21.0
Missoula County	10.8
Beaverhead County	8.6
Ravalli County	7.2
Madison County	6.3
Park County	5.2
Powell County	4.4
Meagher County	4.3
Gallatin County	4.3
Lewis and Clark County	3.7
Granite County	3.5
Jefferson County	3.2
Carbon County	3.1
Teton County	2.7
Sweet Grass County	2.5
Cascade County	2.1
Deer Lodge County	1.8
Fergus County	1.3
Silver Bow County	1.2
Broadwater County	1.2
Custer County	0.8
Sanders County	0.6
Chouteau County	0.2

The receipts from National Forests in Montana during the fiscal year ending June 30, 1908, were:

Big Belt	$ 18,419.08
Big Hole (Anaconda Div.)	130.00
Big Hole (N.)	8,009.15
Big Hole (S.)	8,010.05
Bitter Root (Montana Div.)	59,385.04
Cabinet (N.)	36.45
Cabinet (S.)	1,363.30
Crazy Mountains	7,133.99
Ekalaka	1,128.39
Elkhorn	2,587.15
Gallatin	8,095.02
Helena	24,091.97
Hell Gate (E)	33,643.07
Hell Gate (W.)	880.30
Highwood Mountains	1,277.75
Kootenai	47.42
Lewis and Clark (N.)	17,219.55
Lewis and Clark (S.)	42,051.39
Little Belt	13,544.74
Little Rockies	1,729.65
Lolo	7,349.71
Long Pine	3,767.31
Madison	13,100.04
Missoula	77.55
Otter	9,735.06
Pryor Mountains	2,815.83

Snowy Mountains	3,875.30
Yellowstone (Absaroka Div.)	$ 13,725.38
Total	$303,229.64

Under an opinion secured from the Attorney-General no distribution of the money received from this source for the year 1908 has been made, and the same remains in the hands of the State Treasurer for apportionment among the counties as the incoming Legislature may direct. This concession of participation in the cash proceeds of Forest administration, as well as the law allowing homesteading on reserves, was made in response to the very general criticism aroused in the counties most seriously affected, that settlement was being retarded and taxable property curtailed by the removal of these vast tracts from entry and cultivation. It is hardly to be expected that there will be any extended settlement by newcomers on the agricultural lands now included within the reserves. The principal result of the law has been the application for homestead entry by old-time settlers on hitherto unsurveyed lands, who now, for the first time, are able to secure title. This is particularly true of squatters on odd sections within the railroad grant. As a matter of fact the forest reserves, in Montana at least, are located on the mountain ranges, which, while affording in some instances, a great deal of grazing for cattle and sheep, is unfit for agriculture. There are many patches of arable land lying in the draws and along water courses, but these in the main have long been occupied and cultivated, and are not available for newcomers. As stated before, the old-timer will homestead his claim on the reserve, but it is out of the question to attempt to induce those who are entirely unacquainted with conditions to do so.

No claims can be initiated upon lands within the National Forests, nor upon lands withdrawn for National Forests, except under the mining laws, and under the homestead law in accordance with the first Homestead Act of June 11, 1906, and the regulations thereunder. Persons having valid claims under the public land laws, or legal titles to lands within National Forests, are free to occupy and enjoy their holdings, but must not interfere with the purposes for which the reserves are created, and must not cut timber or make use of National Forest land without a permit, except within the limits, and for the actual development of their claims. Any other use is forbidden. Homestead claimants are required to live upon and cultivate in good faith the land embraced in their claims.

The Department of the Interior excuses temporary absences of bona fide claimants, when necessary to earn money for support or to improve the land, or because of sickness. The land embraced in the entry must be used for the home of the claimant to the exclusion of a home elsewhere. Personal visits to the land to keep alive the fiction of residence, the use of the land as a summer residence only, or a mere pretense of cultivation does not satisfy the law. Lands may not be appropriated and patented under the Homestead law if entrymen use them merely for grazing headquarters during a few weeks or months each year and maintain their homes elsewhere.

The Act of June 11, 1906, authorizes the Secretary of Agriculture, in his

discretion, to examine or ascertain, upon application or otherwise, what lands, both surveyed and unsurveyed, in National Forests are chiefly valuable for agriculture and may be occupied for agricultural purposes without injury to the National Forests if not needed for public purposes. The Act authorizes the Secretary of Agriculture to file lists of such lands with the Secretary of the Interior, who will then declare the lands open to entry under the Homestead law.

That the application for listing of agricultural lands in the reserves may be made as easy and simple as possible for the homeseeker, the Forest Service has issued a blank form which is expected to prove of much benefit to those applying for land under the Reserve Homestead law. Intending settlers were formerly instructed that no set form of application was necessary, but that they should describe the land accurately in a letter to the Forester.

In attempting to comply with these instructions applicants would frequently omit some very necessary facts, and sometimes the descriptions of the lands were so indefinite that an examination was not warranted because forest officers would not have been able to locate the claims from the data given. The new form is very simple and will assist persons as much as possible in order to avoid a necessity of the return of the application because of faulty or indefinite descriptions.

The blank consists of a two sheet folder, with the first page reserved for the application, the second and third for the Forest Service regulations under the Act, and the amendments. On the back of the form is a township map which facilitates an easy location of the claim. Applicants who fill out this form will avoid delay in the examination of the land they wish to enter. The blanks may be obtained either from the Supervisors of the various National Forests or upon application to the Forester, Washington, D. C.

When National Forests are created, agricultural lands are carefully excluded from the boundaries, but it is impossible to cut out small patches susceptible of cultivation. These are the areas which are open to settlement. Generally speaking, they are far away in the mountains, reached only by indifferent roads and unfitted for farming until stumps and brush have been removed. The fact that they are laid out by the inspectors in two and one-half acre subdivisions will convey an idea of their size and shape.

Under certain restrictions, desert claims, timber and stone claims and mineral claims can be made on Forest Reserves.

The Department issues what is known as "The Use Book," which contains all the rules and regulations governing the reserves, and which may be obtained free of cost upon application to any forest officer.

It is more than likely that no individual of sound mind questions the justice and wisdom of the general policy of conservation and protection of the remaining forests of the United States. If there is to be any timber for the use of future generations, and if enormous destruction of life and property by disastrous floods is to be avoided or minimized, not only must the present growth of timber receive the utmost limit of judicious protection, but there must also be a generous and systematic reforestation of denuded lands. There is, however, ground for extensive and numerous complaints against

many administrative acts of the Forest Service, and the petty tyranny of unwise, offiicious or over-zealous underlings who take themselves altogether too seriously. The establishment of a local bureau of control in the immediate vicinity of the reserves where those in authority may possess themselves of first-hand knowledge of conditions by personal investigation and study will do much to remedy existing discontent with administration methods and lead to better feeling among all concerned. The following table shows the name, area, supervisor and address of each reserve in the State:

Reserve.	Area in Acres.	Supervisor.	Address.
Absaroka	885,640	V. Gifford Lantry	Livingston.
Beartooth	700,813	E. C. Russell	Red Lodge.
Beaverhead	1,809,359	C. K. Wyman	Dillon.
Bitter Root	1,152,864	W. W. White	Missoula.
Blackfeet	1,993,600	F. N. Haines	Kalispell.
Cabinet	1,043,840	Ralph N. Bushnell	Thompson.
Custer	590,720	Glen A. Smith	Ashland.
Deer Lodge	1,082,800	C. C. Hall	Anaconda.
Flathead	2,131,488	Page S. Bunker	Kalispell.
Gallatin	944,640	D. T. Conkling	Bozeman.
Helena	928,000	Dwight Bushnell	Helena.
Jefferson	1,255,320	Herbert Graff	Great Falls.
Kootenai	1,677,361	C. E. Schoonover	Libby
Lewis and Clark	850,720	W. H. Dangs	Choteau.
Lo Lo	1,211,680	Elers Koch	Missoula.
Madison	1,006,240	Clifton W. Hudson	Sheridan.
Missoula	1,200,000	D. G. Kinney	Missoula.
Sioux	145,253	C. A. Ballinger	Camp Crook.

The Service maintains two planting stations, one in the Bitter Root Valley and one on Muskrat Creek, seven miles northwest of Boulder.

For use at these stations some 200 pounds of clean pine and fir seed have been gathered and the work of propagating trees for reforestation will be vigorously carried on. Five-year experiments are to be made in various localities and under all conditions, and favorable results are confidently looked for. Two hundred and fifty thousand trees will be planted at the Muskrat station this year and the work will be extended as rapidly as possible each year thereafter.

As indicating a use of the reserves, there has been cut during the holiday season just passed, a total of 4,000,000 Christmas trees in the United States. In answer to complaints as to this destruction of young timber, the Service declares such use entirely justifiable; that while more than 100,000 acres of timber are cut over for use every day, the number of Christmas trees used could be grown on 1,500 acres, if set four feet apart, and that the gladdening of millions of children at this time of the year is fully worth the destruction of so infinitesimal a portion of the 40,000,000,000 feet of lumber consumed from the forests every twelve months.

Fire is a rapacious enemy of the National Forests. The causes, campers, railroads and lightning, are important in the order named, and it is the duty of the rangers, as well as all occupants of the reserves, to render their best services in preventing and controlling fires. While the year 1908 was especially a year of large forest fires, not only in Montana but elsewhere, the records show a constantly diminishing total of losses, due to the patrol of the rangers. In 1907 one reserve in this State, consisting of nearly a million

acres, had less than twelve dollars fire loss, while the total for all reserves was very small. In 1908 the total loss is estimated at $3,000, with 6,000 acres as the burned over area in the State, which is remarkably light considering the total estimate of 46,000,000,000 feet of standing merchantable timber on the reserves, and the fact that this fire loss includes that in timber in private ownership.

During the grazing season of 1908, 2,127 grazing permits were issued, which covered 15,592 horses, 135,440 cattle and 553,006 sheep.

The number of men employed in the Service in Montana is 283.

STATE LANDS.

Title to the public lands now held by the State of Montana was conferred by the enabling act, passed by congress and approved February 22, 1889.

By this law sections numbered sixteen and thirty-six in each township were given to the State for the use and benefit of the public schools. Such of the sections named as were within the boundaries of Indian, military or other reservations at the time of the grant, were not included and will not become school lands until the reservation is extinguished, and such lands are restored to and become a part of the public domain.

Where such sections, or any part thereof, had been sold or otherwise disposed of, other lands equivalent thereto were to be selected as the State Legislature might provide.

In addition, land grants were made for various institutions and public building as follows: For the purpose of erecting public buildings at the State's capital for legislative, executive and judicial purposes, 182,000 acres; for the establishment and maintenance of a school of mines, 100,000 acres; for agricultural colleges, 140,000 acres; for a state reform school, 50,000 acres; for a deaf and dumb asylum, 50,000 acres; for a state normal school, 100,000 acres; for a state university, 46,080 acres.

It was further provided that these lands should only be disposed of at public sale and at a price not less than $10 an acre. They are not subject to any homestead or entry laws of the United States, but may be leased for periods not exceeding five years. All of these lands have been selected and approved through the State Land Office, acting under authority of the State Legislature.

The schools, colleges and universities thus provided for are to remain forever under the exclusive control of the State, and no part of the proceeds arising from the sale or disposal of any of the lands may be used for the support of any sectarian or denominational institution. Owing to the fact that so large an area of the State is still unsurveyed, but little more than one-half of the school land grant has actually come into possession of the State. The land now held by the State amounts to 3,570,975 acres, of which 3,257,497 acres are appraised and classified. The records show that the classified portion consists of 3,022,154 acres of grazing and agricultural land, and 235,126 acres of timber land, upon which there are 894,848,000 feet of timber. The valuation placed upon the appraised land is $3,615,753; the timber at $2.00 a thousand is worth $1,789,696, making a total of $5,405,499 on the State's holdings. The amount of land under lease is 2,183,489 acres, from which a revenue of $459,255 was received during the years 1907-8, while the total receipts from all sources during the same period were $1,634,585. From the entire selections, 204,912 acres have been sold. The per capita

available for and distributed through the school funds has risen from 38 cents in 1897 to $3.10 in 1907.

This magnificent endowment of the public schools and the grants for public buildings form an enormous estate, the management of which devolves upon the register of state lands and the state land agent, under the direct supervision and control of the state land board, which consists of the governor, secretary of state, attorney general and the superintendent of public instruction. Lands are sold or leased upon application to the board, or at public auction in various places throughout the State when authorized by them. Owing to the enormous volume of business which has developed, and the inadequacy of existing laws to properly conserve the best interests of the whole people, the governor of the State has appointed a commission to revise the land laws governing the department, and it is expected that many changes will be made. These, however, will not affect the minimum price of $10 an acre at which the land may be sold, nor, in all probability, the policy of leasing and collecting royalties on coal deposits and stone quarries. But they may include provisions for irrigating such of the land as may be so reclaimed, thus enhancing its value; a re-estimate of the timber, and descriptive detail of soil, water supply, and general conditions prevailing upon the agricultural lands.

Many leased tracts have been improved by irrigation and intelligent farming until they are in a high state of productivity. When such lands are sold the State protects the owner of the improvements by giving him the first right of purchase, or, if he does not care to pay the price offered for the land, he receives full value for the improvements from the successful bidder.

By allowing a homestead settler who desires to engage in stock raising to secure a proper range outside the boundaries of his homestead, the leasing system has proven of great benefit. Much of the land is thus held, the limit of graizng land to one person being 640 acres. Agricultural land is leased in units of 160 acres, but no attempt is made to lease timber lands. There are two policies pursued in disposing of timber. In one the land and timber are sold outright to the highest bidder, and in the other the timber alone is sold, generally upon an agreed estimate. If this is done the land remains in possession of the State, for sale at not less than the minimum price. Owing to the fact that the selections of state land are so scattered, and consist of small, detached tracts in many localities, no map of them has ever been made. It is therefore impossible to secure definite information concerning them outside of the fact that sections 16 and 36 in each township are school lands, and that selections have been made in every county in the State. Squatters upon surveyed land belonging to the State are trespassers and liable to a fine amounting to three times the rental value of the tract so occupied. Settlers who desire to buy or lease from the State must visit the office of the registrar at the capitol building, or make their investigations personally with or without the assistance of a land cruiser or surveyor. All further information that it is possible to give will be furnished upon application to the Register of the State Land Office, Helena.

IRRIGATION.

It may be difficult at times for residents of the states not affected by the Government Reclamation Service to fully understand what these projects really mean to the arid and semi-arid portions of this country. To those who have actually seen the marvelous results which follow the application of water to desert places, the transformation of a wilderness into grain fields and orchards, the beneficence of these projects excite amazement and gratification.

In early days it was a comparatively easy matter for a farmer, or a neighborhood, with plow and scraper, and perhaps a small supply of lumber, to construct the main ditch which would furnish the water necessary to mature crops. From these early beginnings it became imperative that more extensive canals be constructed and the result was either private undertakings involving the expenditure of large sums of money, or extensive co-operative organizations by means of which it was possible for the farmers themselves to irrigate extensive tracts, the land being held in individual private ownership, while the ditch was owned in common.

Here the only expense after the original work of construction, was the cost of maintenance, which consisted of the wages of a man to patrol the ditch during the irrigating season and necessary repairs. This was pro-rated according to the amount of land each man had, probably at the highest not averaging over fifty cents an acre a year.

As time went on and the opportunities for such enterprises became more and more restricted by reason of increasing settlement and consequent appropriation of available water in the smaller and more accessible streams, the apparent limit of irrigable land was reached. From this situation two amazing factors in the development of the State have sprung: First, the Government reclamation projects, and second, dry land farming.

Realizing that nature had apparently created the larger streams for the express purpose of making vast areas of unproductive land available, and that the great expense attached to such enterprises precluded their consummation by private individuals, the Government undertook the work, and the Reclamation Service was created.

In the United States, it has been estimated that approximately 10,000,000 acres of land have already been reclaimed, and since the passage of the Reclamation Act, the Government has already appropriated over $30,000,000, which is being expended in reclamation projects already under way, and is rapidly extending the scope of the work under this most opportune and profitable policy. The Government has already reclaimed or is in the process of reclaiming 3,200,000 acres, and together with the 3,300,000 already projected

and contemplated for immediate reclamation, will provide homes for 80,000 families and will add over $250,000,000 to the taxable property of the United States. These enterprises, employing thousand of skilled and unskilled laborers, will naturally add to the home market the already enormous demand for the products of the irrigated farms.

The national reclamation fund has passed the $50,000,000 mark. Nine and one-half millions of dollars were added to the fund during the past fiscal year, by far the largest contribution in any one year since the passage of the national reclamation act, and the total fund, including the contributions received during the past year, now amounts to $50,746,454.

Not all this amount is now available for use, for many millions have already been expended in the construction of works in all the states contributing to the fund and other millions have been contracted for, so that all the money heretofore available, or now available, will be required for the completion of projects now under way. It is not expected that any new projects will be authorized in the immediate future.

Up to the past year Oregon has been the leading contributor to the reclamation fund, with North Dakota second. The land fraud prosecutions in Oregon, however, have had the effect of retarding land sales in that state, and in consequence receipts from such sales have fallen behind the receipts of North Dakota, thus enabling that state to forge to the front for the first time. North Dakota has been experiencing a land boom, which made it possible for the state to climb into first place. Washington, this year, as heretofore, occupies third place on the list of contributors.

The following table shows the contributions made to the fund during the past year, and the total contribution of each state, up to June 30, 1908:

State	Contributed in Past Year.	Total Contribution.
Arizona	$ 65,907	$ 435,922
California	537,795	3,466,167
Colorado	709,538	3,826,860
Idaho	490,625	3,553,050
Kansas	152,686	456,868
Montana	654,306	4,037,112
Nebraska	125,563	945,650
Nevada	60,512	206,438
New Mexico	535,858	1,642,080
North Dakota	1,884,071	8,359,314
Oklahoma	573,442	4,745,835
Oregon	1,387,413	8,167,822
South Dakota	753,662	2,561,914
Utah	157,097	774,924
Washington	843,762	5,089,056
Wyoming	573,566	2,463,851
Total	$9,518,823	$50,746,454

It should be said, by way of explanation, that the figures given for the fiscal year 1908 are merely estimated, and are based on the actual receipts from public land sales in the various states. In 1906 and again in 1907 the reclamation fund received 92 per cent of the land receipts, the other 8 per

cent going to state agricultural colleges and to defray certain expenses of the local land offices, such as fees and commissions of registers and receivers. The figures above quoted are computed on the 93 per cent basis and may be slightly excessive or not sufficiently liberal. However, the same percentage was applied to each of the states, so that the relative contributions are as shown, and final computation will show the figures approximately as given.

Under the reclamation law a majority of the money contributed by any state to the reclamation fund shall be expended in building irrigation works within that state. The interior department has stipulated that 51 per cent shall thus be set apart in what is known as the restricted fund, and the remaining 49 per cent goes into the general fund, to be expended by the secretary where it is considered most essential. Thus it works that some states have, up to the present time, received more benefit than their land receipts justify, while others have been cut off. In the end, however, each state will receive its just share of the money until all the available water shall have been utilized.

By way of comparison, it is interesting to note that more money was turned into the reclamation fund during the fiscal year 1908 (the year ending June 30, 1908) than in any previous year since the law was enacted. The nearest approach to the late record was in 1903, when it was believed that public land receipts had reached their maximum figure and would thereafter gradually decline. In 1903 the reclamation service received $8,713,906. This past year exceeded what was regarded as high water mark by nearly $1,000,000. The next highest year to 1903 was 1907, when the contribution amounted to $7,984,922. The smallest contribution was that of 1901, a little in excess of three millions. It is evident from these figures that the land resources of the United States are far from exhausted, particularly when they yield increasing incomes, now exceeding $10,000,000, the highest figure in the history of the General Land Office.

As a matter of fact, the contributions to the reclamation fund in 1907 and 1908 are far ahead of estimates made by the Reclamation Service, and there is between four and five million dollars more on hand than was counted on when the existing plan of work was laid out. However, the increased cost of labor and materials, and the fact that some projects are running ahead of estimates, will cut into this excess, so that there will be no money available for beginning new projects not yet approved.

A summation of the work of the Reclamation Service for 1907 shows that it has dug 1,815 miles of canals, or nearly the distance from Washington to Idaho. Some of these canals carry whole rivers, like the Truckee River in Nevada and the North Platte in Wyoming. The tunnels excavated are 56 in number, and have an aggregate length of 10¾ miles. The service has erected 214 large structures, including the great dams in Nevada and the Minidoka dam in Idaho 80 feet high and 650 feet long. It has completed 670 headworks, flumes, etc. It has built 611 miles of wagon road in mountainous country and into heretofore inaccessible regions. It has erected and has in operation 830 miles of telephones. Its own cement mill has manufactured 80,000 barrels of cement. Its own saw mills have cut 3,036,000

feet, B. M., of lumber, and 23,685,000 feet have been purchased. The surveying parties of the service have completed topographic surveys covering 10,970 square miles, an area greater than the combined areas of Massachusetts and Rhode Island. The transit lines had a length of 18,900 linear miles, while the level lines run amount to 24,218 miles, or nearly sufficient to circle the earth.

The diamond drillings for dam sites and canals amount to 66,749 feet, or more than 12 miles. Today the service owns and has at work 1,500 horses and mules. It operates 9 locomotives, 611 cars and 23 miles of railroad, 84 gasoline engines and 70 steam engines. It has constructed and is operating 5 electric light plants. There have been excavated 33,419,222 cubic yards of earth and 4,745,000 cubic yards of rock. The equipment now operated by the Service on force account work represents an investment of a million dollars.

This work has been carried on with the following force: Classified and registered service, including Washington office, 1,126. Laborers employed directly by the Government, 4,448; laborers employed by contractors, 10,789, or a total of all forces of 16,363. The expenditures now total nearly $1,000,000 per month. As a result of the operations of the reclamation service eight new towns have been established, 100 miles of branch railroads have been constructed, and 14,000 people have taken up their residence in the desert.

The funds available for reclamation work under the act is the money derived from the sale of the public lands, and of the total amount derived from these sales, approximately 10 per cent is apportioned for the reclaiming of the lands of Montana. In the State there are 10,000,000 acres of land susceptible to irrigation, of which approximately 1,500,000 acres are already under cultivation by the small farmers and private irrigation enterprises; 38,000 acres are being cultivated under the reclamation act; 743,000 acres are covered by reclamation projects under construction and 755,000 acres are covered by proposed irrigation projects of the Reclamation Service. Allotments for construction and maintenance have been made, and estimates of cost of the various projects throughout Montana are perhaps best shown in a table hereinafter given.

RECLAMATION OF MONTANA.

By the Act opening to entry the ceded portion of the Crow Indian Reservation such Indian lands as are deemed practicable for irrigation under the Reclamation Act, are subject to withdrawal and can be disposed of under the provisions of the Act and the settlers shall pay in addition to the cost of construction and maintenance, the appraised value of these lands. The Act further provides that the payment of this appraised value shall be made in annual installments not to exceed five. This is best illustrated by example as on the Huntley project. The lands segregated for reclamation were formerly part of the Crow Indian Reservation. When this project was opened, outside of the charge for construction and maintenance and operation charge, there was an additional cost of four dollars per acre, that being the appraised value of the Indian lands, and this payment was specified to be made as follows: $1 per acre down and the balance in four annual installments of 75 cents per acre each.

Irrigation works for the reclamation of allotted lands in the several Indian reservations in the State are being constructed by the Reclamation Service, the following table showing expenditures made on projects in Montana to June 30, 1908:

Project.	Expenditure to June 30, 1908.
St. Mary	$ 241,450.00
Huntley	813,268.00
Sun River (Ft. Shaw Unit)	438,497.00
Lower Milk River	91,331.00
Lower Yellowstone	1,893,000.00
Blackfeet	11,244.00
Flathead	3,547.00
Ft. Peck	.....

The subdivision of these various projects into farm units was intended to limit the size so as to be suitable for homes and also to enable one to acquire a comfortable livelihood from the products of the land. Investigations leading to a determination of the size of the unit were based on the land actually under cultivation by irrigation in the vicinity adjacent or nearest to the project in question, on the results there shown and on the possible crops that could be raised in the locality. In the investigations incident to the determination of a suitable area for Huntley farms, farmers of Billings to the number of one hundred and twenty-three living within five miles of the city, who were irrigating farms containing forty acres or less of irrigated lands, were personally interviewed and statements obtained from them relative to their land irrigated; also their opinion as to the sizes of their farms and the amounts of land that they could irrigate, and their almost

unanimous opinion was that forty acres of irrigable land was as much as one person could comfortably handle and obtain the best results. In this manner investigations were carried on for over a year and it was finally decided, after a thorough study of the investigations mentioned, that in so far as was practicable when he soil was of a good character, and on those lands nearest to and adjacent to the townsites, the units could properly be limited to forty acres of irrigable land, with, so far as practicable, one hundred and twenty acres of grazing land, making a total of one hundred and sixty acres.

Throughout all irrigation projects, at intervals of from five to six miles, as near as possible to shipping points and on railroads, if such traverse the project, there are townsites located, the lands on which they are located being withdrawn for townsite purposes. These townsites are surveyed, located and platted. In placing them it was considered good policy to have the towns close together to insure shipping facilities and to give a chance for schools, churches and supply points close to the farms. In connection with most of the townsites, one, two-and-a-half and five-acre tracts have been laid off, which are suitable for a home with garden, orchard and cow lot, but which are close to the business of the town.

In disposing of the town lots it was decided to appraise only a portion of the site to insure compact settlement. Whenever in any particular townsite the growth is such that there is a demand for more lots, another appraisement will be made in accordance with the demonstrated and prospective value of the lots at that time.

There are town lots enough provided so that each farm owner, if he so desires, may purchase a lot in town and after having secured title to his farm can live there where he will enjoy the social and commercial advantages incident to the settlement, while if he cares to remain on the farm he need never be more than three miles from railway station, school house, store, churches, creameries and similar institutions.

The average distance of all the 585 farms on Huntley project to a railway station on both the Northern Pacific Railway and the Chicago, Burlington & Quincy Railway is only one and five-eighths miles.

During 1907 and 1908 the work of the Service in Montana was carried on as rapidly as men and money would allow. Two projects were completed and opened for settlement and satisfactory progress made on all others where construction has begun. The money expended from the fund is returned through the system of yearly payments by the settlers, becoming available for use over and over again. Future developments may make a direct loan from the United States Treasury necessary, though attempts in this direction have hitherto met with decided opposition.

The first work of the Service was the inspection and preliminary survey of various projects, and the withdrawal from settlement of such lands as were found to be adapted to reclamation. Many of these proved upon investigation to carry so great an initial cost that they were abandoned. In other cases it was impossible to persuade the owners of land under the project to become members of the required Water Users' Association, and agree to pay the necessary reclamation expense. In both instances the land withdrawn was again opened for entry.

At present the land withdrawn from entry for the various projects in Montana amounts to 1,489,800 acres, all of which will in time become homesteads or is now in private ownership.

Where the land to be reclaimed is in the ceded portion of an Indian reservation the cost price to the settler includes not less than four dollars an acre to the Indians and the pro-rata expense of canal construction. This brings the selling price to from $30 to $35 an acre. In instances the canal skirts the foothills, cutting the homestead in two, and in such cases, of course, the annual charge is not made for canal maintenance for the land that lies above the ditch, but all land below the ditch whether it is cultivated or not, must bear a yearly assessment of 50 cents an acre. For example, if the farm unit is 160 acres, 80 acres of it being below the ditch and water is used on only 20 acres, the charge for the water at 50 cents an acre would be $40 for the year, or $2 an acre for the land actually irrigated. Or, if the whole 160 acres is below the ditch and only 20 acres irrigated, the cost per acre on the land actually under water would be $4 an acre.

Under the terms of the Reclamation Act settlers must pay for their land in ten annual installments. The law does not specify how these payments shall be divided, but the Secretary of the Interior, under authority granted him by the Act, has stipulated that the payments shall be equal.

On the Huntley and the Fort Shaw projects the first payment is demanded when the settler makes his filing in the local land office. A year of grace is given for the payment of the charge for water, but if the first year's water rent is not paid when due no more water will be furnished.

Two items will be shown what these first payments actually amount to, both being taken from the Fort Shaw project. On 88 acres, 81 of which are good tillable land, the sum of $283.50 was paid, which includes water rent for the first year. On a second tract of 80 acres, of which 67 acres can be irrigated, $234.50 was paid. On this project water rent is charged for only such acreage as can ultimately be placed under irrigation, which explains the difference in the sums paid.

It is proposed that experimental farms in charge of expert irrigators be established on each Government project where new settlers may be expected, so that those not familiar with the work may have the benefit of seeing practical demonstrations of the method of building laterals, preparing the soil, seeding and applying water to the growing crops, thus escaping many costly experiments and discouraging failures common to inexperience.

Every possible effort is put forth by the Service to discourage speculation in these lands. Under the lottery system which has been used in opening some of the projects, it was an inevitable result that some locations should be made by persons whose only object was to realize a profit upon their selection by selling it again to a bona fide settler.

It is firmly believed by those in charge of the reclaimed tracts that it is this class which has been so insistent upon a modification of the rule that all payments shall be equal, and beginning at the time of occupation. It is clearly evident that they are the ones who would be most benefited if allowed to escape by paying only a nominal sum for the first year's occupancy, as

every dollar paid to the Government lessens their prospective profits. Settlers who have entered claims with the sole intention of occupying and improving them are said to be making no objection to the full payment plan. To avoid the difficulties with speculators there is little doubt that a universal rule will be made that the first installment will become due and payable when the entry is made upon all future openings.

The greatest care should be and apparently is being taken to preserve these lands for the actual settler. However, a homestead under these projects is not a paradise for a poor man and can never be so long as he must pay for his water. The settler must be a man of some means, not necessarily wealthy, but in a vastly different position from the thousands who have taken advantage of the homestead laws in states like Kansas, Iowa, Nebraska and the Dakotas. There is no opening for the man who is penniless and the entryman with less than a thousand dollars, if the first payment is due at the time entry is made, is taking long chances.

It should be remembered that the land which can be homesteaded is raw and wild in all respects just as it was created except for natural changes. The main ditch and laterals only are completed. The farm laterals to conduct the water through the fields are to be laid out and dug; the land must be fenced and at least some sort of habitable buildings erected; the land must be broken and cropped and the entryman and his family must have means of subsistence until the first season's products are available. If the entryman has means to break and crop his entire place he not only has the advantage of full returns from his land but has also the use and full value of all the water, while if for lack of time or money to cultivate all his land only a portion of it can be used, he must still pay for water for every acr ein his claim that is capable of being irrigated. Prospective settlers may figure this out for themselves.

Without the slightest prejudice, and with full knowledge and appreciatoin of what the Government Reclamation Service means in the future progress and development of the State, it is suggested that settlers may well take time to ascertain prices and conditions of other lands, some of them in the near-by localities.

At this time it may not be deemed out of place to repeat the advice which has been given by this bureau to thousands of people who have written for information concerning land in Montana. In all cases make a trip of personal inspection before completing a bargain. No person who has followed this suggestion has ever regretted doing so, while many who did not have fallen into grievous difficulties.

THE MILK RIVER PROJECT.

From present indications, at least, some portion of the 1,000,000 acres which was withdrawn from settlement in 1902 in the Milk River Valley will be reclaimed, and under water furnished through the labors of the Reclamation Service, inside of a year. The conditions which have prevailed and the hopes of the settlers are forcibly presented in a resolution passed at the last meeting of the United Milk River Irrigation Association, held in Havre December 10, 1907. This recites that certain investigations were made by

the Reclamation Service as to the feasibility of the diversion of the St. Mary River into the Milk River and its use together with the waters of Milk River for the irrigation of the arid lands of the Milk River Valley in Montana, and as a result of such investigation, in August, 1902, more than one million acres of this land was withdrawn. That some work has been done on the diversion canal from the St. Mary River, but none upon the distributing canals lower down on the Milk River; that the soil is of such depth and character that one thorough irrigation in the early spring is usually sufficient to produce valuable crops, and if the distributing canals could be constructed in the immediate future the revenue from the flood waters of Milk River so diverted would assist in carrying forward the necessary diversion of the waters of St. Mary River for the permanent irrigation of the lands included in the entire system; that more than five years have elapsed since the withdrawal of the lands in this valley for the purposes of this project, and if the diversion canals should not be begun until after the completion of the canal from St. Mary to Milk River, it is evident that at least from three to five years more must elapse before any water can be furnished. The terms of the Reclamation Act provide that no patent is to be issued until the final payment, at the end of ten years from the date of placing water upon the land. There would be a total time of about twenty years from the date of withdrawal (at which time the greater portion of the land was filed upon), before the issuance of patent, thus working an unnecessary hardship upon the settlers. While by beginning work upon the distributing canals at once and completing them at the earliest date possible, the settler will not only receive his patent many years sooner, but the Government will receive immediate returns from the project; that, while no effort is being made upon the part of the Government of the United States to divert and use any portion of the flood waters of Milk River and its tributaries, the Canadians have constructed a canal which diverts a portion of said waters in Canada and threaten to use said waters before they enter the United States, and unless work is soon begun upon this side of the line all use of the flood waters of Milk River flowing through Canada may be lost forever to settlers on this side of the boundary, if prior use is to be recognized. The resolutions called forth a letter from Secretary Garfield in which it was pointed out that more money had already been expended on projects in Montana than was designated in the Reclamation Act, and that greater returns were to be expected from extending the Huntley, Yellowstone and Sun River projects than in undertaking those not so far advanced. Attention was also called to the fact that the water for the main project was in dispute, and that nothing but flood waters would be available until some settlement of this question had been made.

Notwithstanding this discouraging letter another committee was sent to Washington, and so earnest and successful were their efforts that orders were given the engineers to report on the work at once, and bids were advertised for the construction of the ditch. This was followed by bids for the diversion dam, and, at last, after six years wait, and the expediture of over $90,000 on the Lower Milk River project, work was actually begun at Dodson.

The Milk River project, as originally designed, contemplates the reclaiming of about 250,000 acres of land in two divisions: First, 92,000 acres near Chinook; second, 158,000 acres extending from the Dodson diversion dam near that town, eastward to Glasgow. The canal lines necessary for watering these lands will approximate 380 miles. The State, outside of Sections 16 and 36, does not control any large bodies of land here, and the Great Northern Railway, which traverses the project, as it had no land grant, has no large holdings either. In general the public and private lands in the district are just about equal—50 per cent of each. The value of irrigated land at present ranges from $25 to $50 an acre. The average duty of water from measurements taken on private canals is 18 inches. The range of altitude is from 2,000 feet at Glasgow to 2,400 feet above sea level at Havre. The average yearly precipitation is about 13 inches.

Milk River has its source in the United States in the rolling country immediately east of the St. Mary basin. Its two forks, north fork and south fork, flow northward into Canada, where they unite and continue as the Milk River proper in an easterly direction for about 100 miles. On this part of the river there has been constructed by a Canadian company an irrigation system consisting of 200 miles of main ditch and laterals covering 600,000 acres of land. The adjudication of water rights complicated by these Canadian works has materially delayed construction on this side of the boundary. At longitude 110 degrees and 30 minutes the river reenters the United States, finally emptying into the Missouri River. The general plan for the complete irrigation of the Lower Milk River Valley comprises the chain lakes reservoir, the upper end if which is only a few miles below the international line. This reservoir will store the flood waters of the Milk River and any of the stored waters of the St. Mary River that may be turned into it. The water will flow out of the reservoir and be allowed to continue down the main channel of Milk River, supplementing the diversion projects of the Dodson and Vandalia systems.

THE HUNTLEY PROJECT.

The Huntley project covers those lands in Yellowstone county, extending in a compact body from Huntley to Bull Mountain on the south side of the Yellowstone River. The lands are crossed by the Northern Pacific Railway and the Chicago, Burlington and Quincy Railway. These two railways unite at Huntley, about thirteen miles east of Billings. The average elevation of the irrigable lands is about 3,000 feet.

The headworks of the main canal are located about two and one-half miles west of Huntley. From the headworks to Huntley the canal is carried through three tunnels aggregating 2,650 feet in length and along the bluffs adjacent to the Northern Pacific Railway. From these the canal follows the general direction of the Chicago, Burlington and Quincy Railway to about three miles from Ballantine.

Two drops were located in the canal, one about one mile east of Ballantine and the second about four miles. The possible power at the second drop has not as yet been utilized. At the first a pumping plant was installed. This plant pumps water for the High Line Canal on the Ballantine Bench and

extends to the lands along Fly Creek, irrigating about 4,000 acres of land. The plant has now been in operation through one irrigating season and its efficiency reliability and economical success have been demonstrated.

From the pumping plant the main canal runs easterly, in a general way paralleling the line of the Northern Pacific Railway. This canal at present extends to Lost Boy Creek, where a temporary wasteway has been provided. The main canal to this point is 23 1-2 miles, while the High Line Canal is six and one-half miles. Surveys have been made for the extension of the main canal to Bull Mountain, about eight miles, and of the High Line Canal along Fly Creek Valley about nine miles. These extensions when built will increase the total irrigable land under the project by about 5,000 acres, and it is at present contemplated that a portion of these extensions will be built next season.

The lateral system was constructed so that water is delivered to the high point of each farm unit, and the various turnouts, culverts, bridges, etc., required for the operation of the system, waste water ditches and the public roads were constructed and opened. The waste water ditches will prevent any possibility of the outlying lands becoming water logged. One hundred and sixty miles of lateral ditches and sixty-five miles of waste water ditches were constructed and under the works so constructed was developed about 29,000 acres of land.

The lands under the project were subdivided into 585 farm units and in laying these out the policy was to give each settler at least 40 acres of irrigable land and to include with the irrigable land such pasture or woodland as could be found adjacent. The farms thus contain 40 to 160 acres of land, of which 40 to 70 acres are irrigable. In many cases fractional lots containing less than 40 acres were joined with adjoining lots, thus bringing the total irrigable land in some of these farms up to 60 or 70 acres. The larger farms are those lying along and extending across the main canal and along the Yellowstone River.

A careful study of the resources and conditions affecting the farms in the Yellowstone Valley was made before deciding on the 40-acre farm unit policy. It will be noted that the railroad connections and facilities for shipment are very good. A house-to-house canvas of farmers on irrigated lands near Billings showed that a good living is being made on 40 acres of land. The building of a beet sugar factory at Billings and the establishment of a creamery at that point, together with the general development of this part of the State were further reasons for the sizes of farm units adopted.

On May 21, 1907, the President issued a proclamation declaring the lands shown upon the approved farm unit plats of the Huntley project would, on and after July 22, 1907, be opened to settlement, entry and disposition under the provisions of the Reclamation Act and the Act of April 27, 1904.

In order that the settlement of the lands might be effected in an orderly manner, the intending settlers were required to register at the district land office at Billings before 4:30 P. M. June 25, 1907. At nine o'clock A. M. the next day, in the presence of the Secretary of the Interior, a drawing was made from the registered applicants and 1,000 numbers were drawn. Begin-

ning July 22 the applicants corresponding to the first fifty numbers were allowed to file on the lands. Each day thereafter fifty persons were allowed to file, until the names on the list were exhausted. Any lands not taken, prior to August 23, 1907, may be filed on without restriction.

The Huntley project was formally opened on June 26, 1907, in the presence of the Secretary of the Interior, the Senators from Montana, the Director, Chief Engineer and Supervising Engineer of the Reclamation Service, Government and railway officials and people to the number of seven or eight hundred. Up to September, 1908, 245 of the farms thrown open for entry had been filed on, the entries had been made and the lands were under cultivation.

Before the subdivision of the farm units had been made it was decided to have a townsite every five or six miles on the two transcontinental railroad systems. The two railroads involved gave their hearty co-operation and have put in switches and passing tracks at the townsites selected.

Following the general policy of the Service, the town sites of Huntley, Osborn, Worden, Ballantine, Newton, Anita, Pompey's Pillar and Bull Mountain were laid out. Huntley and Osborn are on both railroads, Ballantine and Anita are on the Chicago, Burlington and Quincy Railway, and the remaining townsites are on the Northern Pacific Railway. All are in Yellowstone county.

The settlers on the Huntley project were and are required to make a first payment of $4.60 per acre. This is made up of a first payment against the cost of construction of $3.00 per acre, based on an estimated cost of $30.00 per acre, for the construction of the system, a first payment of $1.00 per acre of the total $4.00 per acre due under the Act of April 27, 1904, to the Crow Indians, and 60 cents per acre, the estimated charge for maintenance for the first year the system is in operation. The settlers will have to pay the building charge of $3.00 per acre each year for ten years and 75 cents each year for four years for the Indians, but the maintenance charge may be changed if the costs warrant.

The total cost of the irrigated portion of these lands to the settler including maintenance and operation for ten years will probably be about $40.00 per acre, which being deferred payments without interest makes the present work cost only about $25 per acre. In regard to these payments, it might be well to note that the land is exempt from taxes during the time of payments.

All the produce raised along the Yellowstone River in and near Billings is consumed in the local markets of that place, but the supply is not nearly sufficient to meet the local demands. A creamery has been in operation in Billings now for some time, but they have not been able to supply the local market with butter, and as the local market is increasing rapidly it will be some time before there will be any dairy products that could not be disposed of at that point.

The greater part of the farmers along the Yellowstone River in the vicinity of Billings say that alfalfa hay pays better than grain crops, and

nearly all are of the opinion that diversified farming will be more porfitable than straight hay or grain.

Practically all the farmers throughout the project are well satisfied witr their first season's work under the existing conditions and it is also a point well to be noted that they agree that the 40-acre farm is the right size farm for this locality and it is their unanimous belief that if properly farmed it will yield a profitable income to the farmer.

THE SUN RIVER PROJECT.

The Sun River project, a portion of which, 16,000 acres, is already open to entry, is located a little west of the center of the State, traversing Teton, Lewis and Clark, Chouteau and Cascade counties. The irrigable lands and structures of this project lie between the Rocky Mountains on the west, Missouri River on the east, include Sun River on the south and extend to the Teton River on the north. The project takes its name from the Sun River, from which stream it takes its water for irrigating the lands. The Sun River rises in the Lewis and Clark National Forest and the present supply of water based on the minimum flow of the river will, when the three reservoirs contemplated are finished, be ample to irrigate 275,000 acres. An additional storage is also contemplated in the utilization of Burton Lake as a reservoir for the flood waters of a branch of Teton River and to store the excess of high water in the Sun River which always occurs each spring.

The first portion of the Sun River project, for which irrigation works have been completed, is a tract of about 16,000 acres of land formerly the Fort Shaw Military Reservation. The bill opening the abandoned reservation to settlement was approved June 9, 1906, and preliminary canal surveys were made during the following summer. Construction work began in the summer of 1907 and water was turned on June, 1908. This system consists of twelve miles of main canal, 66 miles of laterals and 17 miles of waste water ditches, with the necessary structures to control the water and deliver it at the highest point on each farm unit. The waste water ditches were excavated to prevent the water logging of the lower lands through the inexperience of the prospective settlers or their neighbors.

There are 204 farms which may be homesteaded, the smallest being 40 acres and the largest 160 acres. The smallest area irrigable on any farm is 25 acres and the largest irrigable area is 115 acres. The average size of the farms is 88 acres, of which 61 acres is the average irrigable portion.

These farm units were carefully laid off to equalize the value of different farms as much as possible, and the object has been to give as much pasture land in connection with the irrigable area up to a total of 160 acres as circumstances would allow.

The terms of these farm units announced by the Secretary of the Interior, are that the construction cost repayable is $30 per irrigable acre, divided into not less than five nor more than ten annual payments, that $3 per acre of this must be paid to the land office on making application for filing; also that the operation and maintenance cost is 50 cents per acre for the irrigation season of 1909, for which year the first building charge will be applicable.

No additional charge is made for any water delivered in 1908. The second installment of the building charge will be payable May 1, 1910.

All the crops that can be grown in northern countries can be grown here, but the principal crops will undoubtedly be alfalfa, alfalfa seed, grain, sugar beets and potatoes. Alfalfa averages three cuttings each season and the average yield is about five tons per acre. All small fruits do well in the Sun River Valley.

The Great Northern Railway traverses this project. The nearest station to the Fort Shaw unit is Vaughn, which is about seven miles distant from the nearest irrigable lands. There are four other stations along this line on this project, viz., Steel, Power, Dutton and Collins. The United States land offices are located at Great Falls and at Helena, Montana. Applications for homestead entries and water-right may be filed at either of these offices.

Throughout the whole project the farm village idea will be carried out, and these will be established at intervals of about six miles. With the settlements already started and those selected for future growth there will be some twenty of these small towns. Those now located on the Fort Shaw unit are Fort Shaw and Simms.

In connection with the Sun River projects thirteen reservoir sites have been surveyed and four of them will be used to supplement the waters of Sun River. One reservoir site was surveyed which required 23,000 acres to hold the water. It was finally decided to make use of this land as irrigable land and choose another reservoir site because in Montana there are reservoir sites "to burn."

One of the features of the general Sun River project will be the diversion of Bowl Creek in Flathead county on the west side of the Rocky Mountains from emptying its waters into the Pacific ocean to the east side of the mountains on the Atlantic slope.

In the Fort Shaw project the water is delivered to the highest irrigable point in each farm, no laterals having to be built. The lay and slope of the lands such that almost all the canal has been run on land divisions which saves the cutting up of a man's farm by his water.

The Reclamation Service have a cement factory at Fort Shaw at which 1,000 feet of cement pipe have been made of diameter 8, 12, 18, 24 and 36 inches for use in the project. The Portland cement used was about twenty carloads, which was shipped in from Chicago. The sand was at hand. Cement blocks and slabs were also made.

The most notable structure on the project is a reinforced concrete pressure pipe 1,565 feet long with inside diameter of five feet three and one-half inches to conduct the canal across Simms Creek.

Freight to the amount of $10,000 has been paid on materials from Vaughan to Fort Shaw.

LOWER YELLOWSTONE PROJECT.

The first investigations of the Lower Yellowstone project were made in July, 1903, and from the surveys carried on plans, etc., were prepared during the winter of 1904 and 1905. The construction of the project was

authorized May 10, 1904, and construction work was begun in June, 1905, on the first thirty-four miles of the main canal.

The lands under the project border the Yellowstone River in Dawson county. The headquarters of the main canal are seventeen miles below Glendive. On the project in the spring of 1909 it is expected to irrigate about 47,000 acres of land.

The Yellowstone River at its lower course has eroded a broad valley and built up a series of level or gently sloping terraces. These terraces vary in width from one-half mile or less at the southern or upper end of the project to four or five miles in its broadest portion. These are generally two well defined terraces, the height varying from four or five to fifty or sixty feet. On account of its elevation above the river and a good slope riverward, which generally characterizes the surface of the upper benches, the soil is well drained. The soil throughout nearly the entire project possesses almost exhaustless fertility, and probably few areas of equal size could be found in the irrigable districts in the west where the land will require so little clearing and grading to prepare it for the application of water. The surface is generally smooth and gently sloping with about the desirable fall for easy irrigation.

The Lower Yellowstone project is surrounded by one of the largest and best grazing regions in the United States, which makes it especially well located for the new settler who might wish to grow forage crops, for which there is a ready local demand at good prices. The local conditions of soil, climate and transportation are adapted to the growth of alfalfa and at least two heavy crops may be cut each season. Wheat, oats, barley and flax do well, as do most of the ordinary garden vegetables.

During the season of 1907 50 bushels of oats to the acre was the rule rather than the exception, while the yields of wheat, barley, flax and all grains were exceptionally large. When one considers the results now obtained from dry farming in this semi-arid region, due to the wonderful fertility of the soils, it is hard to foretell what can be done under systematic irrigation.

The Reclamation Service proposes to establish demonstration farms on the project which will be a source of valuable information to the people. These farms will be open to inspection by the water users and the results obtained will be beneficial in many ways. All kinds of crops will be grown and scientific methods of farming will be carried on with especial regard to irrigation.

The project has an outlet to a transcontinental railroad at each end, the Great Northern on the north and the Northern Pacific on the south. In addition to these a railway has been located through the entire length of the project by the Northern Pacific Railway Company, which it is expected will be soon built. The new line of the Chicago, Milwaukee and St. Paul Railway has just been completed and is located a few miles south of Glendive.

The settlers on the project have made excellent progress in the last year and prosperous towns have sprung up through the length of the valley, the towns of Sidney and Fairview having had a particularly rapid growth during

the past few years, while Glendive on the south and Mondak on the north have also greatly increased.

Only 1,600 acres of vacant public land under the first unit of the project remained open to settlement September, 1908. The demand for land is increasing and the price of land in private ownership is steadily advancing.

ST. MARY'S PROJECT.

This project is located in the extreme north-central part of the State in Teton county. The principal railroad connection is at Browning, Montana, on the Great Northern Railway. The general land office of this district is at Great Falls.

The St. Mary project may be a complete project, but is now considered as subsidiary to the main Milk River project. The design as at present developed is to store the flood waters of the St. Mary Basin and conduct them by means of a canal 25 miles long to the headwaters of the Milk River, or in case of inability to arrange with Canadian authorities regarding the conduction of the stored water through Canadian territory, the stored water will be carried across to north and south forks of Milk River and delivered to land located in the east portion of the Blackfeet Indian Reservation and public lands adjacent.

The total area in this vicinity available for irrigation purposes is 100,000 acres. Of this total area about 60,000 acres are in the Blackfeet Indian Reservation.

It is proposed to build a low storage dam about three-quarters of a mile below the present outlet of Lower St. Mary Lake. From the reservoir thus formed water will be diverted through a tunnel 1,100 feet long in the right bank of the river. The canal proper, with a bottom width of 27 feet, will begin at the end of the tunnel. At certain stretches of the canal where it passes along the St. Mary River, the section is materially changed and in places the sides and the bottom will be concrete lined.

The construction of this canal has been carried on for the past two years on a small scale, a steam shovel and an excavator having been kept in operation and work is now in progress.

THE MARIAS PROJECT.

The Marias project is located in the north-central part of the State in Chouteau and Teton counties and is traversed by the Great Northern Railway. The land office for the district is at Great Falls.

The area possible of irrigation under this project comprises about 200,000 acres of land, divided as follows:

Marias High Line Canal, 150 miles	102,680 acres
South Canal, 18 miles	13,670 acres
West Reservoir Canal, 60 miles	30,160 acres
East Reservoir Canal, 38 miles	33,740 acres
Pumping	19,750 acres

The average elevation of these irrigable areas is 2,700 feet above sea level. The soil is a sandy loam and is well adapted under irrigation for alfalfa, oats, wheat and other products of the temperate zone. Of the

200,000 acres of land possible of irrigation about 75 per cent is public land and 25 per cent is in private ownership.

BLACKFEET INDIAN RESERVATION PROJECTS.

Preliminary investigation and surveys made in the fall of 1907 demonstrated the possibility of five irrigation systems on the Blackfeet Indian Reservation, and of these the Two Medicine system, which will irrigate about 37,000 acres, owing to the excellent water supply and storage facilities, proved the most feasible and the principal work has been devoted to this unit, which unit will be the first to be constructed.

The Two Medicine unit is located in the east-central portion of the Blackfeet Reservation. The main canal heads just below the confluence of Little Badger Creek with the Two Medicine River and continues in a northeasterly direction to the irrigable areas which are on the west slopes of Cut Bank Creek. This tract has an area of over 70,000 acres and extends about 15 miles along the creek with an average width of about six miles and contains about 37,000 acres of irrigable lands of which about 20,000 acres are under the main canal and about 17,000 acres under a south branch canal. The lands under the main canal are contingent to and directly west of the town of Cut Bank, and are bisected by the Great Northern Railway.

Practically all of the irrigable land is of an excellent grade of brown sandy loam, underlaid with gravel at from one to four feet below the surface. Without water the land produces excellent hay and pasturage, and with irrigation especially good hay and alfalfa and good yields of grain and potatoes.

The topography is such that the land can be irrigated with little leveling work. All of the irrigable lands are free of greasewood and other bush or timber.

Preliminary construction surveys were started on May 1, 1908, and construction work started in July of the same year. It is expected that the system will probably be completed and ready for irrigation in the fall of 1910.

FLATHEAD INDIAN RESERVATION PROJECTS.

Between the Continental divide on the east and the Bitter Root Mountains on the west in the western-central part of the State, in Flathead, Sanders and Missoula counties, is the Flathead Indian Reservation. In this reservation there are about 130,000 acres of land subject to irrigation, which, when irrigated, are well adapted to grain, alfalfa, apples, cherries and all small fruits, and this land comprises the Flathead project.

For the irrigation of these lands water will be taken from the Jocko River and several creeks rising in the Mission Mountains, sufficiency of flow being assured during late summer by the storage reservoirs which will be formed of Lakes St. Mary and McDonald, then pumping from Flathead Lake by power to be developed by the Pend d'Orielle River, as the falls of the Pend d'Orielle will develop much more power than is required to irrigate the arable land within reach.

Reconnaissance surveys were begun in 1907 and work is now being carried on on those tracts where the development is the simplest and portions of each of such areas are expected to be ready for construction of canal systems

in the spring of 1909. The Northern Pacific Railway traverses the reservation and the stations on its line are Evaro, Arlee, Ravalli, Dixon and Parma. The north end of the irrigable area has transportation outlet by boats on Flathead Lake to Somers, where connection is made with the Great Northern Railway. A railway has been surveyed from Somers on the Great Northern Railway to Dixon on the Northern Pacific Railway and will, it is thought, be constructed by the time the irrigation works are completed.

PROPOSED LAKE BASIN PROJECT.

The lands to be irrigated under the Lake Basin project are in Yellowstone and Sweetgrass counties between Greycliff and Billings, extending north from the Yellowstone River about 35 miles.

The two main bodies of irrigable lands are the "Lake Basin," containing about 100,000 acres, and the "Twenty-Mile Basin," containing about 75,000 acres. Other smaller tracts might perhaps bring the total up to 250,000 acres or more. Alternate sections in this area are railroad lands which are practcially all in private ownership. However, very little of the Government land has been taken up.

A sufficient water supply for this area could be obtained only from the Yellowstone River and its tributaries, since the flow of the Musselshell River and its tributaries is practically all used during the irrigating season for lands adjacent to these streams.

PROPOSED CLARK FORK PROJECT.

The area covered by this project is located for the most part in Carbon county. Investigations were made in 1906 with a view of estimating the amount of irrigable land and determining whether a feasible diversion could be made in Clark Fork Canyon.

The diversion contemplated was for the irrigation of lands on the west side of Clark Fork. There are approximately 60,000 acres possibly irrigable under this project, but not more than half of this is first-class land and probably a third is very rough.

The water supply is ample but construction work would be difficult and expensive. There is some irrigable land east of Clark Fork, but most of it is either too high or too rough to admit of profitable irrigation from the stream mentioned, at the cost of constructing irrigation works and the value of the lands involved when irrigated at the time the surveys were made.

PROPOSED CROW RESERVATION PROJECT.

The Crow Reservation project comprises three divisions: First, the Fort Custer sub-project of 28,000 acres lying in a narrow strip west of Big Horn River and extending from Two Legging Creek to near the junction of the Yellowstone River. These lands are very favorable for irrigation. They are crossed by the Chicago, Burlington and Quincy Railway at the new town of Hardin and at their northern extremity are tributary to the Northern Pacific Railway.

Second—The Waco-Sanders Division of about 4,000 acres near Waco station, in the vicinity of the Northern Pacific Railway; another tract of

about 15,000 acres in the vicinity of Sanders station, and a tract of 1,500 acres near Big Horn station. The Chicago, Milwaukee and St. Paul Railway passes close to the Sanders flat.

Third—The Big Horn Division, comprising about 50,000 acres lying west of the Big Horn River.

The lands under the project are mostly in the ceded strip of the Crow Indian Reservation in Yellowstone and Rosebud counties. The average altitude is about 3,000 feet above sea level.

The ceded strip of the Crow Reservation was opened to settlement by proclamation of the President effective July 16, 1906.

Owing to the condition of the Reclamation Fund and the desire of private parties to control the development of these irrigation projects, the lands were not withdrawn under the terms of the Reclamation Act. The result of this policy has been that the lands were settled without restriction and a number of futile attempts have been made to organize the settlers and construct irrigation works. Very little in proportion to the extent that has been possible has been accomplished, however, and the difficulty experienced in perfecting an organiatzion and financing the larger projects illustrates some of the advantages of the Reclamation Act.

The conditions as now shown resulted in a partial development of the cheapest portions thus rendering the ultimate development of the large acreage surveyed by the Reclamation Service proportionately less feasible, and in this way the number of homes that could have been made has been materially reduced.

THE TOWNSEND AND HELENA PROJECTS.

Under the Madison River project as originally contemplated was included a tract of 16,800 acres near Townsend and Toston and a large tract in the Prickley Pear Valley near Helena, and when it was definitely known that to irrigate the entire 175,000 acres first contemplated in the project, the unit cost would be too high to make the project feasible, the major portions were abandoned. However the two tracts in the vicinity of Townsend and Helena were retained for reclamation purposes, as it may be possible by agreement between the land owners acting as a water users' association and under the Reclamation Act and the power companies located on the Missouri River from which water for the Helena project land would be taken. Further investigation would have to be made, but it is known that a large tract of land in the vicinity of Helena, which is now wholly unproductive, may be redeemed.

The investigations made on the Madison River project show that the watering of about 16,800 acres in the vicinity of Townsend and Toston is feasible. Below the projected canal line for watering this tract are 5,140 acres of cultivated land, irrigated from Dry, Greyson, Gurnet and Duck Creeks and Confederate Gulch.

These lands are included in the estimated total of 16,800 acres, and could all be watered from a canal diverting from the Missouri River, leaving the water now used upon them for use upon other lands above. Most of the land is in private ownership. The crops are principally alfalfa, oats, rye and wheat.

The low water flow of the Missouri River is insufficient to irrigate these lands without supplementing the flow of these streams from storage reservoirs, and the cost of irrigating these lands is dependent upon the storage facilities that may be found in further investigations and what this system of storage reservoirs would cost.

Red Rock Lakes, located in Townships 13 and 14 South, Ranges 1, 2 and 3 west and Township 14 South, Range 1 East, have been withdrawn by the Secretary of the Interior for investigation in connection with this and other projects.

FORT PECK INDIAN RESERVATION PROJECT.

Investigations are now being carried on throughout the reservation in order to determine those tracts susceptible to irrigation, also to determine the method of watering the lands. A gravity supply can be obtained from the Missouri River, diverting at old Fort Peck. Deposits of lignite throughout portions of the reservation make the pumping projects feasible in their vicinity and it is probable that several different projects will be found on the reservation. Storage reservoir sites have been located on Porcupine, Box Elder, Poplar and Big Muddy streams, but as yet the work is only in such a preliminary state that definite statements regarding the proposed projects it would be at this time impossible to make.

COST OF LAND AND PAYMENTS.

In selecting a public land farm unit for entry on any of the Reclamation Service projects, the settler may choose any farm as subdivided by the secretary's announcement still vacant at the time of his application, but he may not choose the particular areas to comprise that farm. He must live five years upon the land before making proof, as the reclamation laws do not allow commutation and the cash payment in eighteen months. Soldiers are credited for their term of service as under the Homestead Law. The land will cost him nothing except on projects constructed on ceded Indian lands, as the Huntley project; also excepting the land office fee for filing and making proof, and of course land in private ownership, but he repays to the United States only the actual cost of putting water upon the actual number of irrigated acres in the farm. The acreage irrigable in each farm has been carefully determined to the nearest acre and the irrigable and nonirrigable portions of each farm are shown on the plats filed in the land office; thus every person knows definitely at the start upon how many acres he will have to make water repayment.

Under these terms the early settlers are allowed nearly two years before the second payment is due, thus giving them opportunity to get their land in shape and letting it earn its own repayment. Maintenance charges are expected to be much lower after the first year or two and on account of the thorough construction and methods employed they should be materially less than those ordinarily paid under systems heretofore constructed.

As an example regarding payments, suppose the farm has 26 acres of irrigable land, and, as on the Sun River project, the construction charge is $30 per acre and the maintenance charge is 50 cents per acre, the first payment

will be $78 for construction charge and $13.00 for maintenance and operation charge, a total for the first year of $91.00. Supposing the future maintenance charge should be 30 cents per acre, the annual charges thereafter for the succeeding years would be $78.00 plus $7.80, a total of $85.80.

While the first cost of water right for the Reclamation Service projects has to some seemed at times large in comparison to the charges on private systems, it must be borne in mind that on these projects water is delivered to the highest portion of the farm and only the actual leveling of the ground is necessary by the settler; then also the land is exempt from taxes, and there is no interest charged by the Government on future or deferred payments, the cost of these lands being absolute and cannot be varied from the first cost as assigned by the secretary. A good example of what the difference is between the Government cost of construction is shown by the following actual costs, and the figures given are based on practically the minimum rate of interest on land loans in this State:

Private project, $25.00 per acre, payable in 10 years.

Reclamation Service project, $30.00 per acre, payable in 10 years.

First payment, private project, $2.50 per acre; second payment, same plus interest on deferred payments, aggregating $34.00 paid on receiving title to land, but also this land has been subject to taxes, which makes the cost still greater.

In the Government project the final payment of $3.00 makes the total of $30.00 as originally charged and there is no charge for interest or taxes.

It is a curious but positive fact that with a water-right charge of $30.00 per acre on a Reclamation Service project, one can by making a deposit of $23.10 per acre in about any National bank in the State, make his ten annual payments of $3.00 each from same, so that the actual cost of land would be $23.10 per acre.

FARMING THE PROJECT LANDS.

The crops under irrigation on the farms of Reclamation Service projects for the season of 1908 made a remarkably good showing for this, their first season—all sod land broken this spring for the first time. On the Huntley project about 200 settlers succeeded in getting a portion if not all of their lands plowed and planted in time to raise a crop. The principal crops have been grain, of which wheat and oats predominated. Wheat reached 35 bushels to the acre and oats as high as 70 bushels to the acre. Garden truck of all kinds did well, although the season was somewhat late. Other very good yields were made in alfalfa, onions, beans and potatoes. It being the first season that ground was broken, only a few of the farmers planted sugar beets, but those planted showed possibilities satisfactory to the beet sugar company at Billings.

The first shipment of produce from the project was one of cucumbers to Livingston. Potatoes, tomatoes, corn, cabbage, cantaloupes and turnips also made a very good showing, and taken as a whole the farmers throughout the project are enthusiastic over their prospect of soon having a thriving and prosperous community.

Even with the good showing made the best results were not obtained, this being due to the inexperience in irrigation on the part of the settlers, most of the settlers being men who have never done any farming and men who have had some experience as farmers, but in sections of the country where irrigation is hardly known.

It has been a practice in instances to plow up a whole farm or a large portion of same and sow it to wheat, oats or alfalfa without clearing off the sage brush entirely, and without leveling the land to any extent, so when water was turned on the crops were either flooded or received no water at all, and many of what might have been very good crops were injured by the application of too much water or not enough and the lack of proper distributing ditches on their own farm units.

An example showing what a forty-acre irrigated farm will do is as follows: Forty acres of alfalfa at a minimum would be worth $25.00 per acre gross and cost $7.50 to put it up if wages were paid for the work, which would be $1,000 gross or $700 net. If the alfalfa hay were fed stock these returns could be nearly doubled. At the State Experiment Station 900 pounds in live weight on steers has been obtained from one acre of pasture seeded to clover. This at 3 1-2 cents per pound would be $31.50 per acre, or $1,360 for forty acres. It has been demonstrated at the experiment station that beets are worth nearly as much to feed to hogs as they are to sell to sugar factories.

WATER USERS' ASSOCIATIONS.

The Reclamation Act provides that when the major portion of the payments required by the Act are made for the lands irrigated, the management and operation of such irrigation works shall pass to the owners of the lands irrigated, thereby to be maintained at their expense under such form of organization and under such rules and regulations as may be acceptable to the Secretary of the Interior.

After the preliminary surveys have been made and the erection of a project has been favorably decided, the very first work undertaken is the formation of a Water Users' Association. Books are opened and all owners of land under the project are invited to sign an agreement or contract with the Government in effect that, in the event of the work being completed, the owners will pay to the Government the actual cost of such construction, together with a yearly charge for maintenance until such cost has been fully repaid, whereupon the entire plant will become the exclusive property of the association. Shares are issued to the members as their personal property in amounts which correspond to the acres of land owned, but which are inseparably associated with that particular acreage. The constitution and bylaws prescribe how the business of the association shall be conducted, and for regular officers and meetings. The actual cost of administration and maintenance is secured by an assessment levied on all shares and delinquent payments are collected through a public sale of such portion of the land as may be necessary to cover them and attendant costs of such sale.

WATER USERS' CO-OPERATIVE CERTIFICATES.

In construction work on Government reclamation projects both contract and force account systems are used. The "force account," as it is called, is simply taking direct charge by employing men and teams by the day or otherwise, and buying and using tools and implements the same as a private individual would do. It will be observed on an earlier page that the Government is directly employing over 15,000 men, including laborers, in this work. This came about from the fact that in a number of cases it was impossible to secure advantageous bids from contractors; therefore, the Government undertook the work itself, leaving its engineers in charge, purchasing all the equipment necessary and made it a point so far as possible to give employment to the actual settlers on the project.

In 1906 there was such a demand for reclamation projects all over the western country that available funds were not in sight. The pressure was so great, however, that finally water users' certificates were evolved. The authority to issue these certificates arises from a contract which the Water Users' Association makes with the Secretary of the Interior for the purpose of facilitating the completion of an irrigating system.

The certificates are issued by the local Water Users' Association, which is incorporated under the state law, to members in recognition of certain work done or material or supplies furnished. These certificates are not recognized as a liability against the general Government, but they pass from hand to hand among the members of the association. They are issued in convenient form, not to be used as currency, but so they may be readily divided and sublivided among the members who are the actual canal builders and settlers who are developing the country. If a member concludes to leave the country he may transfer his certificates to another member, who can redeem them along with those he may have earned by presenting them to the engineer of the project. The engineer cancels the certificate and gives the Water Users' Association credit for its amount in recognition of an exchange of values for a ditch or a portion of a ditch which has been built by the association at its own expense. They are not receivable by the land office as payment of dues, but the scheme has practically the same effect so far as the settler is concerned. The fact is that any one may accept these certificates in the course of trade if he can see his way clear to get them back into the hands of one of the members of this association, who is, of course, a settler, and to that extent they pass as currency though this was not the intention of the Government.

Their prime object was to save the Government a currency outlay and the scheme runs in this wise: If, on a $2,000,000 project, the Secretary of the Interior pays in currency $1,800,000 for nine-tenths of the project, the water users contribute $200,000 in labor and supplies, this being the remaining tenth of the project. The equitable distribution of the cost to the water users would then be nine-tenths cash, which is paid to the land office as it becomes due, and the other tenth, which is for work done by water users, is represented by certificates issued by the Water Users' Association to its members.

The net effect and result is that the bona fide settlers have, through their Water Users' Association, financed themselves to the extent of $200,000 which it has cost to build one-tenth of the ditch, the association being given credit for this amount by the engineer who has inspected and accepted the work, and the member is credited by the association for the amount of certificates he holds, no matter whether he earned them himself or took them in trade from some one else. And the general Government has nothing to do with raising money for this one-tenth. It simply furnishes the engineers to lay out the work, supervise it, inspect and accept it. With each certificate that is issued to a member a duplicate is sent to the engineer certifying that the original has been registered. This is merely for the purpose of preventing the redemption of certificates that might be fraudulently issued by forgery or otherwise.

The result of this scheme has been to push forward a vast amount of irrigation work that otherwise could not have been undertaken on a cash basis by the Government.

RECLAMATION BY THE STATE.

The Act of Congress, known as the "Carey Act," approved August 18, 1894, is now being applied intelligently and with great success to the reclamation of many thousands of acres of land in Montana. The purpose of the Act was to induce the various states which it affected to inaugurate systems of irrigation on unappropriated Government land. Upon the completion of these projects patent to the land, aggregating a million acres, was to be issued directly to the State and from it to the settler. In all cases the Government was held inviolate for any bonds or liens against the property, while the settler was guaranteed full possession of his land and water right. State legislation was at once enacted to carry out the provisions of this Act of Congress and the Carey Land Act Commission was created. Contracts were made for the reclamation of two tracts of land under which the contractors issued bonds against the land and water rights, and undertook to reclaim and settle the land with the money received from the sale of these bonds.

For many years these projects dragged along, showing little if any progress in either settlement or reclamation. In 1903 the Legislature abolished the commission and instituted the Carey Land Act Board. In 1905 certain amendments were added to the new law, making it the most comprehensive and applicable statute of its kind in existence. This statement is supported by the testimony of competent engineers and arid land boards of other states, and by the actual results in promoting the reclamation of arid lands in Montana.

The first work of the new board was the rehabilitation of existing projects which necessitated, primarily, the retirement of the bonds issued by the companies whose contracts had been allowed to lapse. This was accomplished by mutual concessions and $132,000 of bonds on one project were surrendered and destroyed. On the other project the contracting company was allowed the privilege of renewing its contract, retiring the old bonds in lieu of transfer of all property by the State. Suits on behalf of and against the State were dismissed and active reclamation work resumed.

Under the provisions of the State law there exists an unparalled opportunity for investors and settlers to secure land upon reasonable terms. Provision is made whereby co-operative associations, corporations or individuals may avail themselves of these opportunities. Less than one-half of the million acres promised under the Carey Act are now segregated, and as other states have done, an extension of the total may be secured. The attention of investors is particularly called to the possibilities of profitable undertakings under this law, and the fullest investigation is invited.

The projects now completed, as well as those under way, afford an excellent opportunity for others who may be interested to profit by past experience.

Mistakes may be avoided and success assured through the lessons conveyed upon the projects themselves. To secure a tract of land for reclamation it is first necessary for the persons or corporation desiring to make a contract for such purpose to file a request with the Carey Land Act Board for the selection of such land to be reclaimed, describing it by Government survey. This request must be accompanied by a proposal to irrigate and settle the land, together with plats, the source of the water supply to be used, the location and cost of the proposed works, and an agreement that perpetual water rights inseparable from the land reclaimed and to embrace a proportionate interest in the canal or other irrigation works, will be sold to settlers on the land. Plats of the land must be filed in triplicate, two for the United States Government records and one for the State Engineer. The field notes and a list of the lands must also be filed in the local United States Land Office nearest the project. When these preliminaries are completed the State Board asks for a segregation of the lands to the State of Montana and executes a contract that such lands will be reclaimed. The Board then makes a contract with the parties submitting the proposal covering all details, including the completion of the work, and settlement of the land within five years or less. Work must be begun within one year from date of the contract and be prosecuted diligently to completion.

Provision is made for the production of power from the canal, provided it does not interfere with the rights of irrigators. Proceeds from the sale of such power belongs exclusively to the construction company. The company may retain possession of the works until ninety per cent of the land reclaimed has been sold and paid for, charging not more than one dollar an acre a year for water, and defraying all cost of maintenance and operation. Ultimately all works must be turned over to the settlers.

When co-operative efforts are to be made to reclaim a tract, each member must subscribe for one share of stock for each forty acres to be settled upon. The State Board will furnish maps and data for reserving the land, and the engineering plans necessary, besides exercising general supervisory control over the work. The co-operative association must pay the land office fees for reservation and the necessary fees when the State applies for patent to the land. After the plant has been in operation four years, the association must pay the Board not to exceed one dollar an acre, or such sum as has been agreed upon, whereupon deeds shall be issued to each settler for his land. On all projects the maximum amount of land each settler may hold is 160 acres.

Contractors may fix the price at which land is sold under their projects to suit themselves, agreeing, however, to pay the State fifty cents an acre for all land settled upon and to furnish one second foot of water (40 miner's inches) for each 100 acres.

Settlers desiring to purchase reclaimed land apply to the contractor for the claim they desire to purchase. The application for settlement, proof of the settler's citizenship and title to the water for that particular claim are forwarded to the State Engineer, who issues to the settler at once a deed for his claim.

A the same time a lien is issued to the company upon the land and water right deeded to the settler, which is discharged when full payments have been made to the company.

Should the contractors decide to water a greater tract of land than is segregated to them under the Carey Act, selling water to outside settlers, it is the uniform policy of the Board to make it absolutely certain that there is sufficient water to subserve all the land at the rate of one second-foot of water to each 100 acres of land, whether under contract or otherwise.

It is also proposed that settlers upon these projects shall receive instruction from competent irrigators, in the construction of laterals and the preparation of the land for crops. The Board has made provision whereby a select corps of engineers representing the State, the Board and the settlers, shall inspect the ditch before its final adoption and certify its capacity to deliver the full quota of water, after making full allowance for seepage and evaporation. This should effectually dispose of all apprehension on the part of settlers or others as to the water supply and the stability of the construction work.

PROJECTS UNDER THE CAREY ACT.

Under the direction of the Carey Land Act Board there are nearly 400,000 acres of land in various stages of reclamation. There are seven distinct projects, four of which are now ready for settlers. One was opened in 1908 and the others, while reasonably certain of development, are not disclosed at this time because of the desire to prevent complications with settlers who might locate upon the land.

The Dearborn project was one of those originally selected, and suffered materially in reputation before the present contractors began operations. It consists of 36,000 acres of land situated in the northern part of Lewis and Clark county, of which the State Engineer estimates at least 25,000 acres to be first-class agricultural land. The contractors have expended between $10,000 and $15,000 in the past year, and were confidently expecting a large number of settlers during the season.

The enormous rainfall of the spring and summer, however, did damage to the works to the extent of several thousand dollars. This has all been repaired and the work of settlement will now go rapidly on. It may be said that the damage done on this project was common to nearly every irrigating enterprise in the State, and many of the railroads as well. The rainfall was very unusual and may not occur again in years.

Ten thousand acres of the land are already patented to the State, and the main ditch and laterals to cover 14,000 acres are done. To reclaim the remaining 22,000 acres under the project, reservoirs must be added. The completed work will necessitate the expenditure of $50,000 besides that already invested. The price of land under the project is $20.50 an acre, which is extremely reasonable. But few families have come as yet, but the prospects for the rapid settling of this region are very bright. Those who are interested may secure full information regarding the Dearborn by applying to the W. J. Dermody Investment Company, Omaha, Nebraska, the settling contractors.

The Billings Land and Irrigation Company has 28,000 acres of land now under its ditch. This project has been entirely completed and the land reclaimed. Over one hundred families have made locations and there are six school houses on the tract. The land is sold at $50 an acre and is well worth it. Some has been resold by the original settler as high as $150 an acre. The promoters were the pioneers in State reclamation, and justly claim to have laid the foundation for the great advance in the growth and prosperity of the country tributary to the city of Billings. All the patented land has been settled and there is a demand for the State to secure further patents. So confident are the promoters of this enterprise in the value of their holdings that they announce their entire willingness to return to any dissatisfied purchaser the full amount of the payments made upon his claim. The land is located in Yellowstone county near the thriving city of Billings, a most desirable part of the State. Here the beet sugar factory offers an opportunity for large profits on irrigated land such as is possible at present in no other section of the State. Settlers may apply for details to the home office of the company at Billings, Montana.

The Big Timber project consists of 65,000 acres of land near the city of that name in Sweet Grass county. This was also one of the selections under the old commission, and there were $132,000 worth of bonds issued against the project. These bonds have been surrendered and destroyed. Under a new contract 28,500 acres of land have been reclaimed and will soon be placed on the market at $50 an acre. The holdings are on the Yellowstone side of the watershed between that river and the Musselshell River. Eighteen thousand acres are first-class irrigable land suitable for intensive farming. The soil is in places a sandy loam, but mostly a deep fertile clay loam and generally underlaid with a clay-gravel sub-soil. The water used for irrigating is absolutely free from alkali, and there is no alkali in the soil except in a few low spots. The lands lie from four to twenty miles from the city of Big Timber, and the same distance from the Northern Pacific Railroad. The climate is good and all kinds of crops mature to perfection in this locality.

The water supply comes mainly from Sweet Grass Creek and Government measurements show that there is an abundant and never failing run-off for every acre in the project. The company also owns a large canal and water rights from Big Timber Creek which will be used on lands adjacent to that stream, besides two large and convenient reservoirs on Otter Creek with a surveyed capacity of 31,000 acre feet of water. Fifty teams and one hundred and twenty-five men have been employed during the past summer on the north side of the river, and a two-mile tunnel is being driven from both ends on the south side. Expenditures for the season will aggregate $200,000.

Members of the State Board and others who have visited the site report the work as having been exceptionally well done, the soil deep and fertile and remarkably adapted for easy and thorough irrigation.

As in all other Carey projects this land and water system will eventually pass into the ownership and management of those who settle upon and pay for it without any further expense than the initial price asked, $50 an acre.

This may be paid in installments so that it will be possible to make the land actually pay for itself, aside from the small first payment.

The proximity of this project to the sugar factory at Billings—81 miles—makes it entirely practicable to raise sugar beets there for that market.

It is confidently predicted that land under this ditch will meet with ready sale and rapid settlement and that a prosperous community will result. Full particulars may be obtained by addressing Glass Brothers Land Company, Big Timber, Montana.

The Conrad project consists of 160,000 acres of land, 100,000 acres of which will come directly under the supervision of the Carey Land Act Board. The land is situated in Teton county and is in close proximity to the Government reclamation project on Sun River. The water supply is obtained from reservoirs to be filled by impounding the surplus waters of Birch and other creeks, which will prove entirely sufficient as shown by Government hydrographers.

In addition to the actual work of reclamation which has been already accomplished the new owners will build a railroad to facilitate moving crops to market. Many men have been employed during the season enlarging the main canal, which is 100 miles long, building dams and reservoirs and getting things generally in shape for actual settlement. The price asked for the land will be about $35 an acre. This is without doubt a section of the State which will witness great progress and early development. The soil is nearly perfect for maturing grain and other crops, including sugar beets. If another sugar factory is ever built in this State it is practically certain that it will be in the immediate vicinity of this project. But aside from this there is plenty of room for the successful practice of intensive farming. The Carey lands extend from within three miles of Conrad nearly thirty-five miles, and the new railroad will cover practically this entire distance.

The contractors announce that the deeded land will be open for settlement and water available in June, 1909, and the Carey land in September of the same year.

The dams for impounding the flood waters are enormous structures, giving every evidence of stability and careful workmanship. The largest dam is completed and stores 176,000 acre-feet of water. The structure is fifty-four feet high and has an extreme length of seven hundred and six feet. Work on three other dams which will increase the storage capacity to 225,000 acre-feet of water is rapidly going on despite winter weather, with one hundred and fifty men and fifty teams. Just as soon as water is supplied to any unit of the Carey land, the State many obtain a patent for it from the United States, without waiting for the reclamation of the entire tract, so that as soon as settlement is effected title may be had from the State by the settler. With each acre of land will go one share of stock in the water company, and at any time after 60 per cent of this stock has been issued the land owners may take over the entire management of the works if they so desire. When the land is sold, the construction company passes out of existence and at no stage of the proceedings does title to the land pass other than to the State and the settler.

During the season of 1909 this and other projects will add nearly a half million acres of irrigated land in Teton county alone. Further particulars are obtainable by addressing the contractors, Withee & Cargill, Conrad, Montana.

As stated above there are three other Carey Act projects now in process of erection whose location it is not policy to divulge at this time, which will reclaim 150,000 acres more. The officials who have this work directly in charge are highly enthusiastic over the progress being made, thoroughly satisfied with the construction of dams and canals and confident that these projects will not only lead to a large increase in population and wealth production, but to the ultimate reclamation of the entire million acres allowed under the Act, and possibly more.

These projects are not only fostered and superintended by State officials, but they are recommended and endorsed as worthy of investment and purchase.

PRIVATE IRRIGATION ENTERPRISES.

The Sanders Co-Operative Ditch Company was the first to complete an irrigation system on the ceded portion of the Crow Reservation. The intake of the canal is situated near the town of Hysham on the south side of the Yellowstone River and runs east to within six miles of Forsyth. The system covers 13,000 acres and was completed in time for the season of 1908, but very little of the land under it was prepared for the use of the water. The cost of the water is about $15 an acre.

The Hysham Co-Operative Ditch Company is a pumping plant. The canal covers about 2,500 acres. This was completed in time to irrigate a limited acreage this year and to thoroughly test the system. The cost of water under this system is approximately $9 an acre and from the test made it is evident that the pumping system will work satisfactorily and that the cost of maintenance will not be very much greater than that of maintaining a long canal.

The Big Horn Low Line Ditch Company has a canal which takes water out of the Big Horn River at a point about three miles north of the town of Hardin and covers 7,500 acres. The cost of water under this system will be about $10 an acre. This project was completed in the fall of 1908 except for some work on structures. A satisfactory test was made, however.

The Two Legging Canal Company is the largest project on the Crow Reservation, covering some 16,000 acres. The main canal has its intake on the Big Horn River near where Two Legging Creek flows into the Big Horn and runs in a general northerly direction. This is the only irrigation enterprise on the ceded portion of the reservation which is not co-operative. The cost of water on this system is said to be $12 per acre. This will be fully completed in ample time for the irrigation season of 1909.

The Big Horn Ditch Company has a project consisting of 3,000 acres on the west bank of the Big Horn River, beginning about twelve miles south of where the Big Horn flows into the Yellowstone. This ditch will be ready for the season of 1909 and the cost will be about $10 per acre.

Several other ditches covering smaller areas are contemplated, the principal one being the Waco ditch.

The land covered by these various projects is of the very best quality and for general agricultural purposes is not excelled by any other portion of the State.

During the past two years since the ceded portion of the reservation was thrown open for settlement the homesteaders have encountered the usual difficulties that go with the development of a new country, but in the future those portions of the land which are covered by the irrigating systems will undoubtedly support prosperous communities.

On the bench lands the conditions are said to be favorable for dry land farming. A dry land farm experiment station has been estabilshed near the foothills in the Yellowstone Valley near Huntley and above the Government Canal. The normal precipitation at this station is 14.66 inches. This year the station raised 29 bushels of fall wheat, 19 bushels of spring wheat and 47 bushels of sixty-day oats per acre. Some of the homesteaders west of Hardin matured grain crops this year but as there was not sufficient of it to justify importing threshing machines it was cut for hay and the average yield cannot be stated.

The Teton Co-Operative Reservoir Company is designed to reclaim 60,000 acres of land, 10,000 acres of which were filed on in the spring of 1908 on the Brady Flats in Teton county, and 250,000 more acres would be available, it said, if water could be procured. A portion of this latter large quantity of land may later be reclaimed by the Government.

The reservoir of this project is located five miles west of Bynum and will receive the flood waters of the Teton and Muddy rivers. The capacity of the reservoir is 82,000 acre-feet, the dam is 62 feet high and 2,200 feet long. The diversion ditch which will carry the water to the reservoir is 5½ miles long and there will be 40 miles of main ditches running east and southerly to the Brady Flats.

The project was begun in October, 1906. Reservoir completed September, 1908, and the ditches will be completed in July, 1909. The investment is calculated to be about $250,000.

Notwithstanding the name the business of supplying water will be conducted on the corporation plan.

AGRICULTURE.

In 1908 the farm value of all farm products in the United States reached the enormous total of $7,778,000,000, a mark never approached in all history. The gain over 1907 is $290,000,000 and would have been much larger if the price of hay and cotton had not been lowered.

If the value of crops in 1899 be taken at 100, the value of 1903 stands at 125; for 1904, at 131; for 1905, at 134; for 1906, at 143; for 1907, at 159; and for 1908, at 165. During the past ten years the wealth production on the farms of this country has exceeded $60,000,000,000.

The greatest of all crops is corn, whose production amounts to 2,643,000,000 bushels, with a farm value of $1,615,000,000. This crop, produced inside of four months, would cancel the interest bearing debt of the United States, pay for the Panama canal, and build fifty battleships. Far better than that, one-half of it would provide a twelve to twenty-foot channel in the great Mississippi cross, making Fort Benton a sea port and opening the vast coal fields of Montana to commercial use.

Other crops in the order of their value are hay, cotton, oats, barley and rye. All cereals aggregated 4,329,000,000 bushels, a total that has been exceeded three times, but the value reaches $2,694,000,000, or more than $300,000,000 above 1907.

The sugar beet crop has never been so large or valuable as it has this year. The rapid development of this crop is shown in the statement that the production of beets for 1908 is 45 per cent above the average for five years. Nearly 500,000 short tons of sugar will be made from the crop.

The aggregate value of animals sold and slaughtered and of animal products at the farm reaches nearly $3,000,000,000.

AGRICULTURE IN MONTANA.

It is with much pride and satisfaction that the Bureau presents the amazing progress of agricultural development in Montana during the past two years. From predictions of future greatness, we are rapidly passing to marvelous records of actual production.

The influx of settlers, so much needed and anxiously awaited, has actually begun. The stigma attending the importation of farm products into Montana amounting to millions of dollars each year, is being rapidly removed. Nearly 1,500,000 acres of public land were located during 1908. The cultivated area of the State was largely increased and while average crops were not so prolific in 1908 as they were in 1907, the gross return was greater, reaching fully $60,000,000. This exceeds the estimated mineral production for the year by $6,330,000. If the value of livestock, wool, fruit, eggs, poultry and butter be added to that of grain, hay and other farm

products, the total will justify the claim that Montana is already a great agricultural state.

Again, the present development has been attained outside and independent of the great reclamation projects of both the Government and the State. It is confidently expected that the next two years will see nearly a million acres of highly productive, irrigated land adding its quota to the yearly output. With this accomplished, and thousands of acres of dry land settled and under cultivation, the old-timer may well doubt the evidence of his senses. With no reflection whatever upon the mining industry, it is still a fact that ore taken from a mine cannot be replaced therein. But with land, the values taken this year are duplicated indefinitely, and prices are constantly increasing.

If these two great sources of wealth are present and under simultaneous development, the conditions for a truly great commonwealth are simply ideal. Such a combination exists in Montana to-day. Her own people as well as others are waking up to the possibilities of the natural resources so long neglected, and the entire State is feeling the uplift. The pioneer in this movement was without doubt the Billings Land and Irrigation Company, whose publicity campaign and successful reclamation of waste land aroused attention and stimulated imitation. Closely following this came the Milwaukee Railroad, which began at once to advertise the country through which its line passed and to encourage and promote settlement. This galvanized the older roads into action and the do-nothing policy was a thing of the past. Hundreds of settlers began pouring into the State, occupying dry lands, and many who were already residents purchased large tracts of land which were rapidly brought under cultivation by the new method. Whole benches and valleys were thus transformed.

Eastern, northern and central Montana have witnessed the greatest development in this connection, though the western and other portions of the State have been greatly benefitted by the railroad construction work done there as well as sharing in the general prosperity. Montana passed through the panic of 1907 without a single bank failure, the issuance of clearing house certificates, or any other evidence of weakness.

The superlative excellence of the grain grown on both dry and irrigated lands is becoming more widely known, as its volume increases. The fact that Montana oats average from 8 to 23 pounds a bushel above the standard weight of 32 pounds, quickly attracted the attention of eastern cereal food manufacturers and many carloads are now being shipped to them at advanced prices.

The increased wheat acreage has resulted in a production more than sufficient to supply the local mills, and but little if any wheat is now being shipped in from other States to be made into flour.

Montana was sixth in the production of flax seed in the United States in 1907, growing 436,000 bushels. In 1908 the production dropped to 391,000 bushels. This was grown almost exclusively in Valley and Dawson counties near the Dakota line.

While Montana cannot be considered as in the corn belt, 94,000 bushels were grown to maturity and many acres are cut each year for fodder.

In estimating the production of wheat only the figures of spring wheat are given, and for the year 1907 these are 4,003,000 bushels. As an equal area was sown to winter wheat; these figures should at least be doubled to show th production, and this was fully equaled in 1908. An interesting fact in this connection is the average yield an acre in Montana of 28.8 bushels, as against the general average of 14 bushels for the United States. But two states exceeded Montana's average.

In 1907 the State produced 11,760,000 bushels of oats from 240,000 acres, an average of 49 bushels an acre, against a general average of 23.7 bushels. Montana oats also run from 40 pounds to 55 pounds to the measured bushel.

From 17,000 acres there were threshed 646,000 bushels of barley, or 38 bushels an acre. This grain is of the very highest quailty, having been awarded the first prize in competition with all comers. It is exported in large quantities for use in the world's greatest breweries.

Eight hundred and fifty thousand tons of tame hay were cut on 500,000 acres. The production of wild hay cannot be given, but it is very great.

Two million seven hundred and sixty thousand bushels of potatoes were grown in 1908, an increase of 60,000 bushels.

All other crops common to a northern state were grown in abundance, but limited space forbids further enumeration. For the same reason it is impossible to give complete, the great volume of interesting and valuable data compiled during the past two seasons of farm yields and record breaking crops in every county. Those who are not mentioned specifically are not overlooked and should not take offense. The Bureau is simply compelled to choose from a record of unexampled excellence such matter as it believes will convey intelligent knowledge of conditions to prospective settlers and investors in such manner as will not tire the reader or make an unweildy volume. The reader will also understand that no invidious comparisons are to be drawn from the fact that certain localities are given greater prominence than others in what follows. Many good things might be said of all the counties. The material selected applies with more or less fidelity to the others and is reliable evidence of the general productivity of Montana farms. As has been intimated, those parts of the State contiguous to the line of the Milwaukee Railroad have been the scene of great activity and development. Beginning with Custer county, where this line enters the State, through Rosebud and into Yellowstone and Fergus, a wonderfully rich country has been opened.

At Miles City approximately 500,000 acres of land have been sold within the past year. Not all of this was in Custer county, but the figures give an idea of the land market throughout eastern Montana. Prices range from $6.25 to $10 an acre for raw land and $15 to $22.50 for improved farms. In addition 1,200 homestead locations were made at the Miles City land office in 1908. Both the sales and homesteads were on dry land, so-called, and a few instances of what has actually been done on them are pertinent.

Miss Mary E. Whaley, near Terry, broke 25 acres this spring and from the sod raised 51 bushels of oats to the acre, averaging over 40 pounds to the bushel.

Egaas Brothers had 30 acres each of potatoes that yielded 140 bushels an acre; a fair corn crop, heavy rye, and oats that went 44 bushels an acre.

Hackney Brothers on Cabin Creek had a fine crop of field peas; turnips actually as large as a water pail; millet, oats, hulless barley and yellow dent corn. The latter did not mature but was fine fodder. The rye and Turkey Red wheat yielded 35 bushels to the acre on sod.

H. L. Struckmeyer, southeast of Terry, had 60 acres of corn that was very fine.

H. H. Murphy raised a carload of potatoes on sod.

Precipitation about Terry is from 13 to 15 inches, from 6 to 8 inches coming during the growing season. With this moisture, the fine soil of the region and the record of what is being done there is certainly a great future in prospect for this district.

The northern part of Rosebud county is sharing in the advance common to the entire Yellowstone River Valley. The Government and private irrigation projects are reclaiming large tracts and there are splendid openings for settlers. All northern crops are grown and the bench lands are well adapted to dry farming.

Yellowstone county shows a most remarkable growth during the past few years. With the development of private irrigation projects and the opening of the Huntley and Billings Land and Irrigation Company tracts there has come the largest growth in population shown in any county in the State. The erection of the sugar factory at Billings was made possible through the reclamation of land tributary to this common center, as it was possible to secure the necessary acreage of beets to maintain operation at the factory.

But the agricultural resources are not by any means confined to irrigated lands. Some of the most signal successes noted in dry land culture are credited to Yellowstone county. On the dry farm of Dr. W. X. Sudduth, at Broadview, 250 acres of Turkey Red wheat was grown that yielded 30 bushels an acre and weighing 59 1-2 pounds a bushel. Flax went 15 bushels of seed an acre. There was also a good crop of bald barley weighing 60 pounds to the bushel, and macaroni wheat at 62 1-2 pounds a bushel.

Mr. W. B. George also had remarkable success in growing wheat without water, getting 30 to 40 bushels an acre, weighing 63 pounds a bushel.

On their farm five miles west of Billings, Randolph Brothers report a yield of 600 bushels of potatoes an acre. The seed was planted in May and no water was used.

Mr. J. T. Graham planted three and one-half acres of potatoes on his ranch at Osborn and harvested 510 bushels of potatoes an acre. His oats ran over 100 bushels an acre and he raised a fine crop of sugar beets. It is estimated that the value of the wheat, oats, barley and other grains grown in the country tributary to Billings is not less than $1,000,000. The ratio of increase in production promises to be very large during the coming

two or three years. Eastern Montana will eventually become a great grain producing center. The soil is specially adapted for this purpose and the acreage is rapidly being extended.

In speaking of the agricultural resources and development of Fergus county is difficult, indeed, to accept actual facts as sober truth. Here is a region which for years was looked upon as fitted only for grazing but where today one may drive for miles with enclosed fields of grain on either hand. The change from range conditions is striking and significent. The twenty acres formerly allowed for grazing one steer is now producing from 700 to 1,000 bushels of wheat. From reports received by Mr. John B. Ritch, Clerk of the District Court at Lewistown, he placed the crops of Fergus county as follows: Wheat, 600,000 bushels; oats, 550,000 bushels, rye and barley about 35,000 bushels. In detail, 83 reports covering 6,520 acres showed a total yield of wheat of 239,059 bushels, an average of 36.66 bushels an acre. From 91 farms there was reported a total of 249,980 bushels of oats grown on 4,425 acres, an average of 56.40 bushels.

As threshing is still in progress on the 1908 crop figures cannot be given but it is estimated that the production will be fully equal to last year.

The famous Rock Creek Bench produces about one-half of all the grain grown in the county. Here the average wheat yield for 1907 was nearly 45 bushels an acre, while specimen yields went as high as 75 bushels an acre.

Thomas Kaufman seeded 87 acres of his quarter section in wheat and then sold his farm to Eugene Beck. The latter lacked only $300 of paying for the entire farm from the proceeds of the wheat and hay crop of 1907.

James Stoner has farmed on the Cottonwood Bench for eight years. The lowest wheat yield he has had was 22 bushels an acre which was drilled into stubble, and the highest was 51 bushels. The poorest year for oats was 38 bushels and the best 84 bushels an acre.

There is but little irrigation in the county and practically all the grain is grown on dry farms. Mill and elevator capacity is adequate but prices could be improved somewhat through organization of the farmers.

The records at Lewistown show a yearly precipitation of 20 inches during the past 10 years. Some parts of the Judith Basin are dryer, but at least one-half the rain fall comes during the growing season. Considering the production, prices of land are very reasonable. Near the towns, from $30 to $50 an acre is asked, while farther out land may be had at from $15 to $25. Without doubt the Judith Basin is one of the most attractive of all the desirable places in the State for grain farmers. There are approximately 2,000,000 acres of land, much of which can be successfully cropped.

The wind is not excessive and the sunshine is abundant during most of the year throughout the basin. There is not and never will be a very large area under irrigation as the streams are small. In the dryer parts of the valley and in dry seasons, doubtless summer fallowing will give the best results. In a country with a light rainfall such as this, there is no danger of the ground leaching, so this objection to fallowing is removed.

The summer tillage by storing the moisture and making available the inert plant food of the soil, will often double the crop as compared with continuous cropping. The experience of the past four years, the first two of which were below the average in rainfall, has proven conclusively that the district around Moore is a safe farming country, and there is apparently no reason, under proper farm methods, why successful crops cannot be grown for generations. This country seldom or never gets an excess of rainfall. The soil is abundantly rich, the rainfall is ample for a crop if it is taken care of, but none of it must be allowed to go to waste. Every effort must be made to keep the soil in a condition ready to absorb and to retain all the water that falls.

Professor Shaw says: "There is something bewitching in the very thought of the future of agriculture in this basin. The growing of winter wheat will doubtless prove a leading industry for many years to come. It is the great money crop. One-half the arable land in the basin may be made to grow from 10,000,000 to 15,000,000 bushels annually. The great yields of the coarse grains will mean that livestock will soon be fattened in large numbers."

Totally without a railroad up to a few years ago, Fergus county now has two. Development attendant upon these enterprises has just begun and the prospects for the future are very bright.

South and east of the counties just described are Carbon, Sweetgrass, Park, and Gallatin. The region embraced within their boundaries contains in undiminished plenty all the desirable features mentioned. Carbon county is rich in coal and minerals, with large areas of fine farming land producing record breaking crops, and no county furnishes a more diversified variety of products. At state and county fairs an amazing exhibit is made of corn, alfalfa, sugar beets, grain, fruit and vegetables of all kinds, including late cucumbers, tomatoes and melons. Sugar beets grow from 15 to 20 tons an acre with a high percentage of sugar.

As an example of possibilities here, Mr. John W. Blewett sold last year from 174 acres, $6,000 worth of produce, including livestock. The labor cost of the year's operations was $3,000. Livestock and seed grain for the following year were of course retained. Four thousand five hundred dollars of the gross return was from sugar beets which were shipped to Billings. For three successive years the oat crop averaged 100 bushels an acre. Mr. Blewett also has a nice orchard.

Mr. Joseph Graham threshed 60 bushels of wheat and 85 bushels of oats an acre. Carbon county has the great Clark's Fork Valley, said by many to be the most ideal fruit growing region in the State. Here the orchards are in fine condition in every respect. Plums were picked and sold in 1908 at $2 a box, which is computed to be at the rate of $1,000 an acre.

Rev. J. G. Clarke, of Fromberg, is reported to have received returns from his orchard averaging $1,200 an acre for 1908.

E. V. Moran of the same place set out McIntosh Red and Gano apple trees two years ago. These trees had three-year-old tops and four-year-old roots, and are now in bearing.

From these and other demonstrations in fruit culture, land prices in the valley have advanced fully 30 per cent.

Diversified farming is proving very profitable on the rich land in the Rocky Fork and Clark's Fork Valleys and many hitherto neglected places are being irrigated and cultivated. Twenty thousand acres reclaimed by the Rosebud Irrigation Company were opened this year.

The main crops of the county are sugar beets and alfalfa, the latter as well as sugar beet tops being used to fatted large herds of beef cattle during the winter.

The topography of the county is such as to give a wide range of altitudes, from 2,000 feet in the valleys to 10,000 feet in the mountains. This insures a never failing water supply with fall sufficient to permit thorough irrigation and at the same time offering opportunity for the development of enormous electrical power. The agricultural development has materially reduced the public ranges for cattle and sheep, but most farmers combine stock raising and feeding with crops and the quality of herds is being constantly improved.

The greatest agricultural tract in Park county is the Shield's River Valley in the northern part. It is about fifty miles in length and varies in width from two and one-half to thirty miles. In the richness of its agricultural resources it is considered surpassed by but few localities in the State. There are a number of co-operative ditches, besides many individual irrigating systems. The soil and climate are very similar to those of the Gallatin Valley. Grain and forage crops are the principal productions.

Lack of transportation has retarded the development of this rich district, but present indications are that this will soon be remedied. Surveys for a railroad have been completed and it is confidently asserted that the line is soon to be built. Along the Yellowstone River south of Livingston there are also some rich tracts. Paradise Valley lies along the west side of the stream for twenty miles. It is from one to three miles wide and gives rich returns from its fertile soil. On the east side of the river is Cascade Valley, about the same in size and soil characterizations. From these districts a magnificent display was sent to the State Fair this year.

The Livingston Land and Irrigation Company has about 3,000 acres under ditch which has been surveyed into five-acre tracts for fruit and truck farms. With proper transportation facilities Park county will be rapidly settled and a notable increase in population will result.

Along the borders of the mountain streams in Sweet Grass county there are thousands of acres of land in cultivation. The soil is rich and deep, and remarkably productive.

The Carey land project at Big Timber will add an enormous tract to the productive area of the county, and to the population as well. One of the important agricultural districts is the Boulder Valley, of which an enthusiastic resident says: "No transformation could be more bewildering than that which has taken place in the Boulder valley within the past ten years, and alfalfa is the cause. Soil, climatic conditions, and an abundant supply

of water makes it an ideal spot for the successful growth of this plant. Every year sees an advanced acreage and hay crop. Ranches have increased in value at least 50 per cent during the past three years. They are still selling far below their real value and are the soundest and safest investment in the real estate market today.

The rapid absorption of the free public range, compels the stockman to adjust his business to altered conditions. The big herds of cattle are fast disappearing and the small rancher is coming to the front with diversified farming and more attention to detail. Smaller bands of cattle grown and fattened on alfalfa are not only making a big yearly income but improving the land as well.

The famous Boone's Peak stands sentinel over the East Boulder basin. It is an amphitheater of surpassing beauty, surrounded by mountains and sheltered from every wind that blows. Its broad and fertile surface is dotted with the homes of a contented and prosperous people.

Gallatin county is the cradle of Montana husbandry. From her fertile fields came the crops whose quantity and quality attracted world wide attention to the possibilities of agriculture in a region believed to be fit only for mining and stockraising.

Following her example, other districts were developed, which in some instances are making the old county look to her laurels, but Gallatin has a reputation that has added wealth and glory to the State, and is well to the front in a notable procession. The valley lies in the bed of an ancient lake, and the soil is an alluvial deposit abounding in plant food to the depth of many feet. The cultivated fields have been extended far up the sides of the mountains where no water is available. Here there is sufficient moisture for winter wheat, barley and other crops, so that the larger part of the grain is raised on land "above the ditch." Surplus water from irrigating ditches has gathered in low places, and drainage is being resorted to.

The crop for which the valley is most famous is the barley which has been pronounced by experts to be the finest for malting purposes in the world. This grain has been shipped to England, Germany, and Australia. On the irrigated fields spring wheat and oats are favorite crops, and the yields are surprisingly large. Fifty to sixty bushels of wheat and seventy-five to one hundred bushels of oats to the acre are often grown.

Doubtless the presence of the Agricultural College has a widespread influence on behalf of clean, scientific farming in the valley, which is now spreading throughout the State. This is noticeable in the practice of rotation of crops, where two years of grain is followed by two years of clover, and in many other up to date methods. This also promotes stock feeding, which has become a great industry.

In 1907 many of the crops were record breakers, and those in 1908 were not far behind. The dry land and irrigated farms were marvels of productivness in both years, but the heavy rains in 1908 so packed and hardened the soil that the yield was affected here as in all parts of the state where the June rains reached.

Gallatin county is estimnated to have 300,000 acres under cultivation without water and 125,000 acres of irrigated land. This is the largest single body of irrigated land in the world. Prices range from $10 an acre to $85.

Such a thing as crop failure has never be known during all the years of farming here. The reports from 18 farmers show an average of 43 bushels of wheat an acre, as against an average of 14 bushels in the United States in 1907.

The highest yield of wheat was 59 bushels an acre of Crail Fife wheat and of oats was 122 bushels, weighing 44 pounds a bushel.

Reports from Lower Camp Creek from a section that ten or a dozen years ago was regarded as almost worthless and known far and near as antelope land, has fairly coined money for the owners of the farms. A. J. Walrath, ex-county attorney of Gallatin county, has harvested a crop from over two sections of land, not all of which was in crop this year, more than 90,000 bushels of grain. His average yield of hulless barley went more than forty bushels to the acre, and some yielded as high as sixty bushels to the acre. His Turkey Red wheat averaged forty-six bushels to the acre, and Spring Fife wheat averaged thirty-five bushels to the acre, both worth more than $1 per bushel. His Crail Fife yielded about fifty-three bushels to the acre, and his Chevalier barley about forty-six bushels to the acre. He expects to realize about $50,000 from his crop this year.

In his immediate neighborhood the Scanlon brothers have a crop of Crail Fife that averaged fifty-one and one-half bushels to the acre. B. A. Scollard had a crop of the same species of grain that averaged sixty-five bushels to the acre. R. L. Churchill's crop of Turkey Red averaged fifty-seven bushels to the acre, and Joseph Michaud had a crop of hulless barley that went sixty bushels to the acre.

Mr. H. S. Buell sent the Quaker Oats Company a sample of hulless barley and received an immediate request for a 100 pound sample to be used as a test. As a result about 3,000,000 pounds were shipped last year.

In some tests it has been demonstrated that hulless barley has really higher malting value than the famous Chevalier which has given Gallatin the reputation of growing the finest malting barley in the world. Taken together, they unhesitatingly challenge all comers.

The elevator and milling facilities are unsurpassed in the State, and thousands of barrels of high grade flour are made each year.

The range prices at Bozeman in 1907 was: Wheat from 77 cents to $1.00 a bushel, with an average of about 90 cents; oats from $1.15 to $1.35 cwt.; Chevalier barley $1.50 cwt. and hulless barley from 90 cents to $1.25 cwt.; rye was $1.00 cwt.

The total yield of small grains is about 10,000,000 bushels yearly.

In the southwest corner of the State are the old settled counties of Beaverhead and Madison. While somewhat removed from the general bustle and excitement of recent events their growth has been marked and steady. Dry farming in Beaverhead has been undertaken with apparent success and will be largely extended during 1909. Three steam plow out-

fits have been purchased, and several thousand acres of virgin soil will be seeded to wheat and oats.

Mr. Norman Holden on the bench east of Dillon, threshed 26 bushels of wheat an acre, and 25 bushels of rye. Oats were also a fine crop, while potatoes brought from $50 to $60 an acre. His success in dry farming will lead others to follow this good example, and many acres now devoted to the range or wild hay will come into profitable production of crops.

In Madison county the period covered in this report has been one of great prosperity for the farmers. 1907 was especially good here, as elsewhere, and the crops were unequalled in the history of the county. Not only was there an increased acreage, but the yield was larger, scarcely a farmer having less than sixty bushels of oats, and forty bushels of wheat to the acre, while 100 to 120 bushels of oats and 50 to 60 bushels of wheat were not at all uncommon. Eastern cereal manufacturers bought heavily of the plump, heavy oats produced in the valleys of Madison, and forty carloads were shipped during the year.

The hay crop was unusually good, both tame and wild. The latter surpasses alfalfa in fattening qualities and hundreds of head are shipped east that are finished on this product alone. Both counties are large producers of beef, sheep and wool.

Concerning the possibilities of the soil in this part of the state, when thorough cultivation is applied, the following letter is highly interesting.

"We have often had some very good yields of grain in the past 22 years, but nothing extra this year (1907), excepting one piece of 18 acres about six miles north of Pony, which had been farmed about ten years, sometimes irrigated and sometimes dry, and it had become quite foul. In the spring of 1906 we gave it a good, deep plowing, and in the summer, to clean it, gave a good double discing and leveled it with a drag harrow. On Sept. 23, 1906, it was sown with 920 pounds of clean Crail Fife wheat, with a single disc drill, and there was nothing more done to it until the binder went in. The result was 1310 bushels of splendid clean wheat, or nearly 73 bushels an acre, averaging in weight about 62 pounds a bushel.

The yield is rather exceptional for this section, but can easily be duplicated or excelled by good farming. Remember, this crop had no irrigation whatsoever; the ground is clay, and has never had any artificial fertilizing, not even any leguminous crop."

That part of the State which lies entirely west of the Rocky Mountains is occupied by Ravalli, Flathead, Sanders and Missoula counties, the first three having been erected from the territory originally in Missoula. There are few tracts of land of equal area in all the world, which contain the wealth producing possibilities of this section. Here are the great timber resources, coal and minerals, water for power and irrigation and the finest of fruit and agricultural lands.

Few sections of the State have been so widely advertised as the famous Bitter Root Valley in Ravalli, but it richly deserves all that has been said of it. The perfection of its fruit, as well as of all grain and hay crops, together with nearness to markets, has made the valley inviting to settlers

for many years. Today, aside from purchase, there is little opportunity for acquiring land. Improved farms may be had at prices ranging from $35 an acre up, and a private ditch company is reclaiming a large tract of bench lands which are offered at $100 an acre. The climate is mild and equable, soil very rich and fertile, and returns from crops phenomenal throughout the entire valley. General farming, fruit, berry and vegetable growing, dairying and lumbering are the main occupations. The orchards contain more than a million fruit trees, and this number is constantly being increased.

Favorable soil and climatic conditions for agriculture are characteristic of all valleys and most of the bench lands of Missoula county, but unfortunately the bounteous water supply afforded by the largest river has not been properly utilized. As a consequence there are thousands of acres of land, as good as any in this State, that has never been cropped. Some valleys however, have been highly developed, and have produced bumper crops for years. Fruit growing and truck farming near the city, are favorite occupations. The valleys abound in deep, rich soil, varying from black loam to clay or glacial gravel. For the best results, water is necessary, though there are instances of splendid returns on dry farms. All cereals, and all vegetables are grown, including melons, tomatoes and cucumbers, while cherries, plums, prunes and strawberries are unsurpassed. Land varies in classification from timber and grazing, to bench and valley and in price from $2.50 to $1,000 or more an acre. Indeed there are fruit lands could not be purchased at any price. Most of the valley and bench lands are already in private ownership, but there are still homestead locations that may be had.

Marvelous as has been the growth of Missoula in recent years, the extensive development which her agricultural excellence merits is yet to come. Water from the river will be placed on miles of unproductive land, giving employment and prosperity to thousands of settlers.

Sanders county borders on the Idaho state line and is the newest of Montana counties. It is very rich in timber and minerals, but agriculture has been retarded mainly by lack of proper roads and consequent inability to reach markets. Plains valley is a marvel of productivity, with a matchless climate, and wonderful beauty of surroundings. Fruit growing has reached a high state of perfection, and is rapidly being extended to other valleys. At Thompson 4,300 acres of land are being reclaimed by Senator Donlan. Soil on this tract has been pronounced by the directors of the Bozeman experiment station to be the finest for fruit in the whole State. The grain production is large and of the best quality and a flouring mill has been recently installed.

Lumbering and general farming are the principal occupations, though the mineral districts are of great promise. Many opportunities for settlers abound, and there are large tracts of fine land recently cut over for timber for sale at low prices. Hundreds of fruit trees are set out right among stumps, the latter rotting out in a few years leaving the ground clear. No portion of the State offers a more desirable place for residence.

Flathead county is a farmer's paradise. The climate, soil and natural rainfall combine to make this region a vast granary where prolific crops are grown without water, year after year, failures being absolutely unknown. Undoubtedly handicapped in settlement by the generous selection of State lands, and the creation of enormous forest reserves within its boundaries, Flathead county has still a meritorious record in both agricultural and industrial progress. The farmers are unusually intelligent, painstaking and thrifty, and their fields are models of cleanliness and cultivation, weeds along the roadside are conspicuous by their absence, and buildings, fences and livestock testify to the thrift and industry of their owners. The production of wheat in 1907 was 500,000 bushels from 23,000 acres, of which two-thirds was winter, and one-third spring wheat; of oats, 900,000 bushels were grown. In 1908, about the same acreage, with a trifle higher percentage of spring wheat was sown, estimated to produce about 450,000 bushels, while oats yielded 700,000 bushels. Prices for the two years ranged from 60 cents a bushel for soft, to 80 cents for hard wheat. The local flour mill has a capacity of 350 barrels of flour a day, and 75,000 barrels were ground in 1907.

Organization among the farmers which permitted them to handle their own grain has resulted in materially advanced prices, as well as opening a growing market with eastern cereal food manufacturers.

There is little opportunity for homesteading, especially about Kalispell, but land prices are not excessive, quality considered. The State has many fine sections which may be leased and improved.

The cultivated area is being extended by clearing cut-off timber lands, many acres of fine soil remaining in this condition. Lumbering is one of the principal industries, and many men are employed. Horticulture has added largely in profits to growers as well as to the renown of the district, All fruits, including grapes, pears and peaches, mature to perfection, and a fine trade has been built up.

Re-crossing the range of mountains there are the counties of Silver Bow, Granite, Powell, Deer Lodge, Lewis and Clark and Meagher. In none of the area thus embraced has there been any extensive agricultural development, either with or without irrigation. The first two named are essentially mining counties, and farming consists principally of raising hay for stock. Some fine crops are grown in Powell and Deer Lodge, but there has been no notable increase of settlers on farm lands. The same is true of Meagher county, which is mainly given over to stock raising, with enormous ranges either in private ownership or under lease.

Lewis and Clark county contains some of the most attractive valleys in the State, but as water, which is abundant, has not been utilized, the agricultural development is limited. The undoubted value of the land with water, its proximity to market, and the increasing demands of settlers, have directed both government and private attention to the great Prickly Pear Valley, and the reclamation of these lands is promised. Limited experiments in dry farming near Helena have been fairly successful but the

general purchase of valley lands for this purpose is not advisable. With water they are as good as any to be found.

A large body of land near Augusta has been reclaimed under the Carey act and will soon be settled.

Where water is available grain, alfalfa and other crops do remarkably well. Lewis and Clark promises a great agricultural future when the virgin soil is irrigated.

Two small but important counties constitute the remainder of this portion of the State, Jefferson and Broadwater.

The cultivated area of the former is being steadily increased, though the growth in population is not rapid. The county contains a number of fertile valleys under irrigation, but the greatest area is mountainous. Stock-raising is much practiced, the ranches growing forage for winter feeding, while the mining interests are very important.

The Missouri River Valley, its tributaries and the Crow Creek Valley in Broadwater county are fine farming regions. The soil is deep and rich, a fine sandy loam which produces heavy crops of grain and grass. Fruit is also grown. Agricultural settlement and growth has been retarded by the difficulty experienced in taking water from the Missouri River without interfering with the interests of the power companies farther along the stream. When this obstacle is overcome Broadwater will forge rapidly to the front.

In agricultural development Cascade county holds high rank. For many years it has been famous for wheat, oats and other products, grown without water. The estimated area sown to wheat in 1907 was 15,000 acres, of which about 60 per cent was winter and all unirrigated. This represents an increased acreage over the preceding year of possibly 20 per cent. The yield of wheat varies according to location in the county from 8 bushels to 30 bushels an acre, while oats average about 50 bushels. At present writing the prospects for the 1909 crop are very bright.

The local production of wheat has never been great enough to supply the needs of the flour mills at Great Falls and grain is now being shipped from points in Montana and from North Dakota to operate it. Prizes offered by the milling company for increased acreage have stimulated grain production to some extent, but for some unexplained reason the above condition remains.

That there is also an enormous variety in the agricultural products is shown from the fact that Cascade was awarded first prize in the 1908 State Fair upon more than 500 samples of grains, grasses, root crops, vegetables and fruits. Prominent among these was the display of home grown timothy seed, claimed to be the best and cleanest of the kind in all the world. Other interesting features were black walnuts, and a new dry farm product called colorabi, a substitute for turnips.

There are many remarkable instances of material success in farming the benches and uplands of Cascade county, but want of space forbids their mention in detail.

The opportunities for extensive settlement upon new locations are good, while recent railroad construction has largely increased transportation

facilities. As indicated above, the local market is ready to handle a much larger product than is now available.

Teton county is one of the most sparsely settled counties in the State and offers some of the best agricultural opportunities to be found for the reason that land is cheaper and accessible to settlers. The county seat, Choteau, is only reached by stage, but is a well located little village of about 460 people. It lies at the southwest corner of the famous agricultural district known as the Burton Bench, one of the best localities in Montana. On this bench, which is about 12 miles square, and under cultivation has more than doubled in price during the past two years and pays immense dividends on present values. Wheat yields on an average 40 bushels an acre and oats will average better than 45 bushels. There is no known record of heavier oats than those grown on the bench, where they have reached 55 pounds to the bushel. On 83 samples sent to the World's Fair the lightest was heavier than the heaviest from any other State. All the oats grown range from 40 to 50 pounds to the bushel.

Grain growing has advanced to the point where there are 18 steam threshing outfits in the county and some of these have plow attachments for use in breaking up the land. Mr. J. E. Hein unloaded one of these combined machines at Conrad May 10, 1907, broke 100 acres of prairie, seeded 60 acres of oats July 4 and 40 acres of barley later. October 1 he threshed oats that ran 45 bushels to the acre and brought $1.00 cwt. on the cars at Conrad, one mile away. The barley did well. Not a drop of water for these crops. In March, 1905, Mr. William Van DeReit bought 130 acres of land at $20 an acre and in March, 1907 sold for $37.50 an acre. His yield of hard spring wheat averaged 43½ bushels an acre. Alfalfa yields from 4 to 6 tons an acre, and timothy 3 to 4 tons. No clover is grown.

A gentleman who has lived in this county for a number of years bought 1,000 acres of land with improvements for $13,000, and has 200 acres more which was taken up as desert land. Almost 200 acres is under cultivation and it is possible to domesticate 400 more. On the free range adjoining he runs 3,000 sheep, 30 cattle and 20 horses. The returns from this ranch the first year were:

Wool	$5,336.00
Eight hundred yearlings and wethers	3,985.00
Six head cattle	440.00
Hay—one-half of crop retained	100.00
Chickens and eggs, Jan. to May 15	70.00
1,300 pounds of alfalfa seed at 18 cents per pound	234.00
Gross receipts aside from increase retained on ranch	$10,165.00

Two men were employed the year round at $40 a month and board; 10 men during 75 days of haying, and 8 men during 30 days of lambing, at about the same wages. The total labor cost was approximately $3,000. The oat crop was from 32 to 70 bushels an acre, with an average of 55 bushels;

winter wheat, 20 to 40 bushels and spring wheat 25 to 62 1-2 bushels; the average of both kinds of wheat, 40 bushels an acre. Two-row barley yielded 50 to 55 bushels an acre. The heaviest oats weighed 55 pounds a bushel and the heaviest wheat 60 pounds. The wheat was fife and blue stem. Gold Mine oats are heaviest in weight, but White Russian has the best yield an acre. The returns from this investment will cover the original cost in three years. The owner has a fine house with running water, good garden and orchard, with about 400 trees.

On this ranch were grown Red Cross currants which, when exhibited at the county fair, were believed to be gooseberries, and so received no prize. Gooseberries were shown in cans that would avrage 3-4 inch in diameter and some were measured that were 1 1-2 inches long and 1 inch in diameter. Raspberries and strawberries are also grown which bring 35 cents a quart in the local market.

Sugar beets raised in the vicinity of Conrad show from 14 to 19 per cent of sugar in the juice, with a large yield per acre. Potatoes are very prolific, one 10-acre tract which was rented for $10 an acre having raised $1,000 worth of tubers. Wild flax grows spontaneously.

Notwithstanding the somewhat rigorous climate, tomatoes, pumpkins, citron, sweet corn, squash and all varieties of berries are grown to perfection. While the transportation facilities are somewhat limited, a new railroad will soon be built to accommodate settlers on the bench. The county has extensive ranges for livestock, the native grasses furnishing rich feed.

About 600 families have settled in the county during the past year and the completion of the Conrad and other irrigation projects will maintain or increase this ratio for many years. Upon the Sun River Government project new towns will be established every six miles. In all there will be 29 of these, so that no farm will be more than three miles from a postoffice and school.

While not experiencing any great influx of settlers, the agricultural area of Chouteau county is being largely extended. The southern portion of the county has always been a distinctly stock growing district, but year after year some portion of the range is broken, seeded, and transformed into a dry or watered grain-growing farm. Notwithstanding the doubts of the old-timers as to the practicability of dry land farming, experiments in this direction have been successful in recent years, as the following facts will demonstrate:

During the year 1907 there were 500,000 pounds of wheat shipped from Benton to Duluth and Minneapolis and 1,250,000 pounds of oats were shipped to North Dakota, Minneapolis and Chicago. Ten thousand bushels of oats were furnished to eastern cereal food manufacturers. North Dakota dealers prefer to pay $1.80 cwt. for Montana oats f. o. b. Minot and Williston than $1.50 cwt. for their home grown grain.

This was the first year that grain has not been shipped into Fort Benton. Nearly all the land that has been brought into cultivation tributary to the town lies south for a distance of 25 miles to the county line in the Highwood

district. During the last two years about 5,000 acres have been added to the producing area. There has not been a crop failure, nor any noticeable shortage of yield during the past five years, which is about the extent of grain growing in this district.

Two-row barley has yielded 45 bushels to an acre, weighing 52 pounds to the bushel. The farm price of oats on the cars at Belt is $1.17 cwt.

Mr. Frank McGowan, Highwood, had 80 acres of oats that ran 87 measured bushels an acre and weighed 51 pounds a bushel.

Rice Brothers, near Benton, had 80 acres of wheat on dry land that yielded 60 bushels an acre and sold for 95 cents a bushel. Wheat ranges in price from 72 to 95 cents, averaging about 87 cents, while oats range from $1.10 to $1.50 cwt., the latter for seed oats.

If by any possibility there should be a deepening of the Missouri River to Fort Benton there is practically no limit to the degree of development of Chouteau lands that would ensue. But navigation of the river has been resumed and for the first time since 1889 a steamboat tied up at the Benton docks in August, 1907.

A careful investigation has revealed the fact that there are 300 families living near the river between Wilder and Milk River postoffice and as many more from Wilder to Benton to whom the service which this boat can render will be most welcome. It is expected that the season of 1909 will see at least three boats in commission on this stretch of the old river and stirring times may be looked for.

Valley county is in itself an empire. The area of public lands now open to settlement on either side of the Milk River aggregates 12,500 square miles, or 8,000,000 acres. This vast territory is covered for the most part with nutritious grasses which have made northern Montana-grown cattle famous. The soil has been mulched by this ripened grass for years and is thus in condition to produce plentiful crops with proper cultivation. The government project proposes to reclaim but 250,000 acres in the valley proper. The remainder is available for dry land farms and range.

Soils of the valley vary from a sandy loam to a gumbo. They are very productive when watered, and there have been some notable successes on dry farms.

It is no uncommon thing for irrigated farm lands with good tillage to produce from 80 to 125 bushels of heavy oats to the acre, and many instances are of record of from 50 to 60 bushels of wheat to an acre.

Dry farms in 1907 yielded 40 to 70 bushels of oats and 30 to 50 bushels of wheat an acre. The yields of potatoes and other vegetables are simply marvelous. Much of the vacant land about Culbertson was taken up two years or more ago. The settlement then begun has been steadily increasing and hundreds of locations have been made throughout the county. For the reason that so small a portion of the public lands are to be reclaimed by the Milk River project, most of the settlers must content themselves on farms without an artificial water supply.

It is essential that a practical knowledge of the proper methods of culti-

vation and saving of moisture should attend all attempts by eastern settlers at farming these dry lands. It will not do to merely plow and seed the land. Dry land farming is a science the rudiments of which, at least, must be understood and the routine must be followed. If this is done the percentage of possible failures will be greatly lessened.

The occupation of Valley county lands by grain farmers has caused the erection of many elevators along the line of the Great Northern Railway. Three were in course of construction at Culbertson at the same time during 1908. The town handled about 250,000 bushels of grain this season; Mondak about 150,000 bushels and Bainville 100,000 bushels.

About 125,000 bushels of flaxseed was grown in 1908, with an average yield of seven bushels an acre.

Dawson county is the eastern portal which has opened to the friendly invasion of the army of homeseekers recently attracted to the broad fields and fertile valleys of this great State. It marks the beginning of the transformation of the rolling prairies dotted with grazing cattle and sheep, into prosperous and well cultivated farms. The rich table lands north of the Yellowstone have proven an ideal location for grain raising and many skilled farmers are locating on lands that have but recently become appreciated as possessing agricultural value in any degree whatever. Government reclamation first attracted the attention of settlers in any number to the rich bottom lands along the Yellowstone. Even here by far the greater portion of the land was devoted to grazing, but 66,000 acres will soon be under water and growing crops. Private ditches and pumping plants with reservoir systems will reclaim other extensive tracts and the irrigated area of Dawson county will become noticeable.

But it is not irrigated land alone that is attracting attention to Dawson county as an agricultural district. All the land that can possibly be placed under ditch is almost unworthy of notice in comparison with the vast expanse that offers ideal conditions for intelligent and scientific farming without water. Both experiments and actual farming results have proven beyond question the adaptability of large areas of bench lands to this system. Many settlers about Fairview and Sidney have had unqualified success with this method and the whole country from Glendive to Mondak is being rapidly taken up. Settlers are also going into the southwestern part of Dawson county where the soil and range are good. Even with the restriction of the range the number of cattle, as well as the quality, will be increased, for each farmer will raise a small band of high-grade animals whose total will far exceed the range herds of the past. There are, however, vast regions in Dawson county where the old-time range conditions will continue to flourish, for not all the land is agricultural. There is enough, however, to make a very noticeable addition to the cultivated area of the State, and grain production of the lower Yellowstone Valley will figure largely in the total output.

DRY FARMING.

It is rather unfortunate that up to the present time no really comprehensive name has been found for the method now so widely used of growing crops without an artificial water supply in localities where the rainfall is insufficient to mature them. Until something better is found, dry farming, or farming "above the ditch," neither of which is technically correct, will have to be used.

For many years by far the larger portion of the wheat and barley produced in Montana has been grown without irrigation. These localities, however, are not the scene of the new dry farming movement. Still they represent in large measure the very sections in mind when speaking of the land above the ditch. During the palmy days of the livestock industry there were thousands of acres of deep, rich soil covered with thick sod and luxuriant native grasses upon which great bands of sheep and cattle roamed and fattened. These ranges were believed to be absolutely worthless for agricultural purposes and, indeed, many of them are believed to be so still. It has been clearly demonstrated in recent years, however, that in many localities this prairie and bench land can be made to produce abundant crops by proper cultivation and conservation of the yearly precipitation.

Marvelous as are the results thus far obtained from the happy combination of brains, soil and natural moisture in certain sections it does not follow that like success will be had in any and all parts of this State. There are places where the rainfall is too slight, even were the soil conditions favorable, and there is land which could not be cultivated even if water could be had to irrigate it. But the fact remains that more than a score of new elevators have been erected to handle grain grown upon dry land farms in heretofore unsettled regions.

As a large percentage of new comers to the State will choose a homestead on similar land rather than under irrigation projects, a certain degree of caution is advised in selecting a location. In particularly favored spots with proper exposure to the sun, deep soil, natural seepage, and careful cultivation the published results are of so startling a nature that they may possibly deceive an intending settler into the belief that the same successful experience can be repeated in less favored places. If this confidence be combined with no knowledge of dry land methods failure is almost certain.

Again, while many successes have been recorded on dry quarter sections, and others will doubtless be made, the business naturally lends itself to large tracts of land, with steam plows and modern machinery. This style of farming requires capital, as well as many acres of land, and is out of the reach of poor men. However, by careful selection of location and a course of instruction in methods a reasonable degree of success may be looked for. As an incentive to further study upon this subject reproduction is made of a portion of the contents of Farmer's Bulletin No. 1. Professor Linfield says:

In farming eastern Montana lands by the system known as "dry farming" success or failure will depend almost entirely on the way the work is done because of the limited amount of rainfall. The importance, therefore, of knowing, at least in outline, how best to do this work cannot be overestimated. The following instructions, if faithfully carried out, will certainly lead to the production of good crops. They are given for three consecutive years, beginning with the breaking of the sod.

The First Year.

If the settler is on the ground in the early spring he may ordinarily grow spring rye, bald barley, speltz, grains for hay, flax, potatoes; corn and broom corn, millet, the last named crops for hay. The ground should be broken as deeply as four or five inches and well pulverized on the surface with the disc and the harrow, the harrow always following the disc at once, or within two or three days.

It may answer to plant the potatoes or corn beneath the furrow slice when plowing, but it is much better to plant on a pulverized surface, and to cultivate while growing. Rutabagas may be thinly sown broadcast and covered with a harrow. The grain crops made into hay may include bald barley, peas and oats.

For spring crops sown on new land, the breaking should be done early and the late plowing left for fall sowing or for crop to be sown the following spring, as it is not generally advisable to sow spring crops on land broken after the middle of May.

1. A maximum crop should not be expected on land broken and cropped the same spring.

2. Some alfalfa should be sown on land prepared as above to get the crop started.

3. As much additional land as possible should be broken four to five inches for the next year's crop, until the land gets too dry for further plowing.

(a) When plowing this land, roll or disc, or, what would be better, roll, disc and harrow, before leaving the field, and in all instances follow the disc with the harrow within a few days.

(b) The ground should then be harrowed occasionally, say twice a month or oftener, until autumn, and always preferably after rain.

(c) Such treatment of summer fallow is imperative, and when carried out will insure a good crop almost any season.

4. Winter wheat of the Turkey Red variety should be drilled into a part of this land in August, and, if desired, winter rye on another part.

5. Thin seeding of cereals is at all times imperatively essential to success.

(a) Not more than the following amounts should be sown per acre: Winter wheat, three pecks, and for a dry season two pecks would be better; winter rye, six pecks; speltz, four pecks; spring rye, five pecks; flax, one peck; bald barley, sometimes called White Hulless barley, three pecks, and oats, four pecks.

(b) Not more than ten pounds of alfalfa should be sown, nor more than twelve pounds of millet seed, and probably less will give even better results.

The Second Year.

1. The aim should be to sow all the grain crops grown for the grain or for hay as early as the ground is ready in the spring, and on land summer fallowed or that has grown potatoes or corn the previous year.

(a) The potato and corn land is best prepared by discing and harrowing.

(b) It should always be the aim to sow the seeds of cereals, including millet, with the drill, as the plants will thus get more moisture.

2. The land sown to grain crops the first year should be summer fallowed and thus made ready for grain crops the third year.

(a) The potato, corn and pea crops may be put upon sod land spring plowed.

(b) If a pea crop is planted, or a bean crop, these may follow grain of the previous year, but they must be planted in rows and far enough apart to admit of cultivating them.

3. The aim should be to sow a considerable area of alfalfa, which is likely to be a chief reliance for hay.

(a) It should be sown on summer fallowed land of the previous year, or on that which had grown corn or potatoes.

(b) It should invariably be sown without a nurse crop, in the absence of irrigation ,and usually in the month of May.

4. The aim should be to plant small fruits and trees for shelter.

(a) These should be put on summer fallowed land and kept cultivated from year to year by shallow cultivation.

(b) Soft woods, such as willow and poplar, will probably answer best for windbreaks.

5. The aim should be to break up more sod land on the fallow plan to add to the next year's crop.

6. Winter wheat and rye should be sown on fallow land as in the the previous year.

The Third Year.

1. All the cereals or grains grown for hay should, as in the previous year, be sown on summer fallow or on land that has grown a cultivated crop the previous season.

2. The cultivated crops of this year may be grown on land that had grown grain the previous year, or on newly broken sod land as desired.

3. The rest of the land that had grown grain the previous year should be summer-fallowed.

4. If possible more land should be broken on the summer fallow plan to add to the following year's grain crop.

5. Winter wheat and rye should be sown as in the previous years.

General Observations.

Should the farmer be unable to sow all these crops he may, of course, plant such of them as will best suit his purpose, always observing carefully the conditions under which they are to be grown.

The crops which may be most readily turned into money are winter

wheat, macaroni wheat, flax and potatoes, important probably in the order named. When breaking sod to the depth stated not fewer than three good horses should be used.

The object in summer fallowing and cultivating so much land is to increase its power to hold moisture, the compensation coming in the larger yields obtained. The necessity for sowing amounts of grain relatively small is based on the fact that the moisture is not enough to sustain the plants in a thick growth with the result that the heads are dwarfed in proportion as the moisture is lacking.

The late sowing of grain crops and also growing them in succession for two years will result in greatly decreased yields.

The aim should be to harrow with a light harrow all grain crops, say twice, once when about to come up and once when four or five inches high, and to harrow corn or potatoes several times to conserve soil moisture.

When harrowing growing crops use three horses and a harrow sixteen to twenty feet wide, which will do the work speedily, and have the teeth set to slant backward so as not to drag out the plants..

The Campbell System.

Originally conceived as a means of preventing the ill effects of drouthy seasons on the general crop yield, the Campbell system of conserving moisture has developed into an elaborate study of scientific soil culture. Experiments conducted in diversified fields since 1883 have convinced Mr. Campbell that the average yield of grain was not half what it might be or should be if the methods of culture were materially changed. The result of these studies and experiments has been crystalized into a method of farming known as the Campbell Dry Land System.

Applied in semi-arid regions such as are common throughout Montana, its principles become vital. They have made possible the growing of splendid crops of grain on land always considered useless for such purposes; they promise the settlement of thousands of new comers within this State and a production of crops that will affect the world's visible supply.

Fundamentally the system is based upon thorough and methodical cultivation of the soil and the conservation of moisture. Borings made at the Experiment Station show that whereas water is found in the soil for only the first foot on prairie land, it has been coaxed down for five feet more on fallowed land. The effect of cultivation is to store nearly eight inches of water, or 850 tons an acre, available for plant growth. Experiments have also proven the necessity of frequently harrowing fallow ground after cultivation. The physical reasons are thus given: Water occurs in the soil in three conditions. First, there is the free water, that which fills the pore space between the particles of soil; this excludes the air and is harmful to plant growth. Usually free water is not found in any considerable quantity in areas of light rainfall, as it is all utilized in furnishing the supply for the remaining two conditions. The second condition in which water occurs in the soil is as capillary water. This exists in thin films around the particles of soil, and it is in this condition that water is of value to plant growth,

while the third is where the water is contained within the soil particles.

While the latter may have its part in bringing the plant food into solution, it is present in such small amounts that it does not act as a carrying agent and occupies an unimportant place in a dry farming discussion.

Since nearly all of the moisture from natural precipitation in Montana is held as capillary moisture, and since it is in this condition that water is of value in plant growth a discussion of the movement of capillary moisture in the soil will lead to an explanation of why all the water of precipitation is not always available for plant growth.

The movements of this moisture in the soil may be in any direction and are generally from the wet to the dryer parts. This may be down, as in the case of rains after a long dry spell, or up, as in the spring when the surface soil first becomes dry. It is evident that no rise of the moisture from particle to particle can take place unless the particles are in contact, or, in other words, unless a continuous ladder of particles exists, up which the moisture can move. If any condition is brought about so that this moisture ladder is broken, this rise cannot go on. The movement of water through a thoroughly dry soil by capillarity is not so rapid as through the same soil when wet; the case being analogous to the much slower absorption of water by a dry cloth or sponge than by a similar one when wet. Water will rise nearly four times as fast in a wet soil as in a perfectly dry one.

Knowing then that by distributing the soil so as to break the moisture ladder, or by allowing the soil to become dried out, the movements of capillary moisture may be interfered with, the farmer is in a position to control the loss of moisture from the soil. Both the breaking of the soil ladder and the drying out of the surface result from surface cultivation. This stirs the particles apart and as they are loosened the contact is not so close. Again, by admitting the air which has been warmed, the particles composing the cultivated layer are thoroughly dried out. These are the essential secrets of dry farming. Always, where possible, keep the surface of the ground a fine dry dust; never allow it to become a baked crust; work the summer fallow just as thoroughly as though it was to be seeded; don't use too much seed. The last is very important, as the best results have been obtained from the use of only three pecks of seed to an acre.

By closely following the system it is asserted upon excellent authority, and from actual results, that any arable land in Montana when the average yearly rainfall is from fourteen inches upward, and where the rainfall for the months of April, May, June and July is seven to eight inches or over, may be made to produce fairly good and profitable crops. It is advisable that early ripening varieties of grain be selected, and that seeding should be done in the fall. It is also wise to use hardy, acclimated seeds.

Certain implements have been devised for expediting the work of preparing the soil, which may be purchased of dealers at reasonable prices.

Condensed into the plainest possible terms, the Campbell method of preparing the soil for the first crop on a dry farm is thus given:

In early spring, before seeding time, as soon as the ground will permit of it, disc the field to be planted, so that the late snow and early rain go into the ground instead of running away into the gulches., thus storing the water in nature's reservoir. Then, when the ground is in condition to work, plow good, but not with a disc plow. Follow the plow daily with a sub-surface packer or with a harrow if no packer is available. Plant the field with a shoe drill, not more than thirty pounds to the acre—less is better. If a heavy rain or snow fall should come and leave a crust on the ground it must be harrowed just as soon as possible, making a dry dust mulch on top of the ground. This is important and imperative at all times until the grain is high enough to shade the ground.

For fall planting the disc must follow the binder and every precaution by thorough cultivation to conserve the moisture in the ground.

YIELDS OF DIFFERENT KINDS OF GRAINS.

Average Results from all Stations for All Years Tested.—(By the Courtesy of the Agricultural Experiment Station, Bozeman.)

Crop	Variety	Period of Growth	Bushels Per Acre						
			Dawson County	Rosebud County	Yellowstone County	Cascade County	Chouteau County	Total	Average
Fall wheat	Turkey Red	320 days	36.63	50.14	29.03	.....	35.02	150.82	37.71
	Lofthouse	320 days	28.80	41.95	25.97	.....	.....	96.72	32.24
	Gold Coin	321 days	34.60	46.62	30.63	.....	.....	111.85	37.28
Fall rye	Common	328 days	32.50	31.82	34.11	.....	15.43	113.86	28.47
Spring wheat	Kubanks	100 days	17.57	20.80	19.32	12.83	21.40	91.92	18.38
	Ghirka	109 days	.....	.....	.....	16.93	.....	16.93	16.93
	Glyndon	109 days	.....	.....	.....	12.77	.....	12.77	12.77
Barley	White Hulless	95 days	20.90	28.31	12.33	15.57	11.95	89.06	17.81
	California	97 days	22.85	34.38	11.67	12.08	13.71	94.69	18.94
Oats	Sixty Day	98 days	51.00	40.03	47.94	21.75	27.06	187.78	37.56
	Canadian White	99 days	46.25	.....	19.88	20.00	40.38	126.51	31.63
Flax	Common	105 days	14.06	13.09	2.04	10.29	8.56	48.04	12.01
Grasses	Brome	81 days	.....	1.40	1.00	.....	.....	2.40	1.20
	Fall Oat	75 days	.....	1.08	1.00	.....	.....	2.08	1.04
Alfalfa	Common	.....	.....	.....	.67	1.26	.....	1.93	.97
Potatoes	Mills Prize	151 days	147.56	160.70	98.43	.....	88.78	495.47	123.87
Sugar Beets	Kleiwanzlebener	184 days	.....	6.28T.	7.00T.	.....	.....	13.28	6.64
Corn for Fodder	Western Dent	.....	.....	4.44T.	2.90T.	.....	.....	7.34	3.67

PRECIPITATION RECORDS.

Month	Dawson County			Rosebud County			Yellowstone County			Cascade County			Chouteau County		
	1907	1908	Normal	1907	1908	Normal	1907	1908	Normal	1907	1908	Normal	1907	1908	Normal
January	.65	.37	.81	1.70	.46	.62	.52	.23	.81	1.78	.77	.61	.00	.16	.69
February	.42	.76	.65	.84	.30	.56	.34	.57	.39	.26	.62	.49	.80	.75	.47
March	.45	.18	1.24	.75	.90	.76	.83	.73	1.11	.95	2.27	.70	.40	1.70	.48
April	.20	.35	1.11	.47	1.22	1.18	.29	.40	1.25	.90	.47	1.08	.41	.54	1.01
May	2.37	1.51	2.32	4.47	2.64	1.98	2.62	6.56	3.06	1.74	4.62	2.58	2.33	.41	2.09
June	2.48	3.54	3.44	3.39	2.26	2.77	4.20	1.94	2.84	7.46	4.22	3.28	4.65	3.45	1.82
July	1.36	1.24	1.66	1.10	.28	1.37	2.16	.00	.81	2.09	.43	1.50	2.57	1.90	1.92
August	2.05	.61	.97	1.00	.47	1.03	1.69	1.70	1.10	2.67	3.13	.85	1.84	1.31	1.26
September	Trace	1.43	1.10	.21	1.10	.92	.55	.24	.74	.25	2.58	.88	.93	.62	1.03
October	Trace	1.59	.77	.47	1.71	.78	.40	2.74	1.02	.10	2.51	.46	Trace	.55	.50
November	.06	.....	.65	.00	.....	.60	.04	.....	1.21	Trace	.....	.83	.00	.....	.77
December	.46	.....	.70	.28	.....	.62	.03	.....	.32	.52	.....	.56	.30	.....	1.63
Annual	10.60	11.58	15.42	14.68	11.34	13.19	13.67	15.11	14.66	18.72	21.62	13.82	14.23	11.39	13.67

NATURAL PRECIPITATION AND DRY FARMING.

There are certain of the well known grain producing sections of Montana where farming is carried on under practically the same conditions which prevail in humid states. These must not be connected in any way with recent or prospective development of so-called dry land farming. A brief study of the records of precipitation in various districts will show the distinction in methods very clearly. On the average, Montana presents a spring and early summer reasonably moist, followed by a later dry summer and fall, and a winter that on occasions is very cold with deep snow. The result is to give a natural vegetation that grows rapidly, is generally short, matures early and with a wiry root able to stand extreme drouth and cold. The wonderful production of grass upon the ranges, no less than the returns from dry farms, proves that abundant crops can be grown upon large areas of Montana farming lands, depending entirely upon the natural rainfall in some localties, and upon its conservation in others. The old time farming without water, and the new dry farming system are, however, entirely separate and distinct. They vary not alone in respect to the location occupied in the State, but in method as well. The high precipitation in certain sections of the State has for years enabled the farmers to grow barley and other grains which excelled any produced by irrigation. It is interesting to know that this excessive rainfall is to be looked for on the western slopes of mountains where the wind blows over a wide stretch of valley to the west. These conditions prevail on the western slope of the Rocky Mountains in Flathead county, where irrigation is the exception; on the westerly slopes of the Highwood, the Belt and the Big Snow Mountains in Fergus and Cascade counties, on the western slopes of the Gallatin and Bridger ranges in Gallatin county, and on the westerly slopes of the Pryor and Big Horn Mountains in Carbon county.

Incidentally, these are also the noted regions for fruit culture. It is of vast importance agriculturally to note that during the growing months of April, May, June and July, the rainfall is nearly if not quite equal to that in the humid states.

The compiled records show the maximum of rainfall in Montana to be twenty-four inches in the northwestern part of the State. From this it decreases to twenty-two inches on the eastern boundary of Flathead county, and to sixteen inches on the eastern boundary of Teton county. The spring and early summer rainfall is about eight inches, which is not as large a proportion of the yearly rainfall as in some other localities of the State. The system of farming practiced here is practically identical with that which prevails in eastern states.

At the headwaters of the Teton and Sun Rivers, and extending over the divide down the valley to the Blackfoot River, the annual rainfall is eighteen inches, while around the towns of Augusta, St. Peters and Choteau the spring and early summer rains run up from nine to twelve inches. In Fergus county, and extending down into a portion of Meagher, the annual fall climbs from fourteen to twenty inches, and the early rainfall from eight

to eleven inches. In Carbon and Sweetgrass counties with Red Lodge as a center there is an area of large rainfall running from fourteen to nineteen inches, with spring and summer fall of from nine to eleven inches. Yet another district of large rainfall is north of Glendive on the divide between the Yellowstone and Missouri Rivers. Here the yearly precipitation runs to eighteen inches, an average fall of eight inches in spring and summer. Experience has proven that there is sufficient rainfall properly distributed to make crops on the high plateaus north of the Milk River, and between the Milk and Missouri Rivers in Chouteau and Valley counties. This is true also of the southeastern part of Custer county. Indications are favorable for dry farming where a deep dark soil with a close tough sod is found, and where the rain fall from April to July is seven or eight inches or over; but those areas with an average of twelve inches or less of annual rain, and with less than seven inches of spring and early summer rain should be avoided.

There is, of course, a very considerable variation in rainfall taking one year with another, and during the dry seasons, partial, or even total failure of crops may be expected, but work and crops must be planned accordingly.

Perhaps the most famous of all the new dry farming districts is the great Judith Basin in Central Montana. Here it is estimated that not less than a million and a half acres will in time yield as bountiful crops of winter wheat as do the one hundred thousand acres now in cultivation. Many elevators are being erected to care for the vast increase, three being located at Lewistown. The country is rapidly taking on the appearance of an eastern farming center, and is being settled with a rush. One may ride for miles through well cultivated fields, the road fenced on either side. Crops are not confined to wheat, but oats, rye, barley, and splendid alfalfa are grown. Two new railroads afford excellent transportation facilities, and both are doing good work in bringing settlers to the land. The season of 1907 was especially favorable and few, if any of the wheat farms yielded less than thirty bushels an acre. 1908 was very dry, there being no rain from June 8 to August 12. In spite of this the average of wheat for the year will be not less than twenty bushels, and the total yield about two million bushels.

These results do not come from slipshod farming methods, but come alone with careful, intelligent cultivation and rigid adherence to system. All root crops do exceedingly well, one farmer reporting 206 bushels of potatoes an acre, while the average for the Basin is not less than 150 bushels. Oats yield from 60 to 90 bushels, averaging 40 pounds to the bushel, and declared by the American Cereal Company to be of the highest known quality for the manufacture of oat meal.

Berries and small fruits do well, and some apples and plums are grown, although the recent settlement of the country has not given time for anything extensive in this direction. There are thirty-six steam plows now at work in the Basin, and fully 75,000 acres of virgin soil, will be broken for next year's crops, and the continued addition of settlers who are taking up

these lands or buying them from former owners, should make the added acreage in crop even larger in 1910.

Another exceptionally fine location for dry farming is in Valley county around the Fort Peck Indian Reservation. Hundreds of settlers have taken up land here, and while there has been some unfortunate experiences from adverse weather conditions both in summer and winter, the locators have unbounded faith in the fertility of the soil, and the future prosperity of the district. But few, if any, have become so discouraged as to abandon their claims.

Favorable conditions continue westward from the Fort Peck reservation for many miles, into Chouteau, Teton and Cascade counties. True, there have been seasons of failure, but for fifteen years wheat grown entirely without water has averaged about twenty-five bushels an acre, as against twelve to fourteen bushels in Minnesota and the Dakota's during the same period.

SUGAR BEETS.

Though there are other sections of the State where comprehensive experiments in sugar beet culture have been made, and hopes for a factory indulged, the Billings plant is the only one of its kind in Montana, and the surrounding country the only district where beets are made into sugar. But farmers have learned the value of the crop for stock-feeding and even near the factory it is estimated that at least one-third the total tonnage grown is retained for that purpose.

It is possible that the success which has attended this vast enterprise may lead eventually to the building of one or more additional factories in the State, though from present indications it will be some years before this is done.

The original cost of the Billings factory was $1,200,000, while improvements, including those now under way, have amounted to $300,000 more. The capacity of the plant is 1,000 tons a day, and during the campaign 450 people are employed, working 12-hour shifts. About 125 employees are retained for the entire year.

Montana consumes about 24,000,000 pounds of sugar annually, and of this amount the Billings factory supplied 15,000,000 pounds during 1907. The remainder of the output was shipped, principally to Duluth. The factory is equipped to handle the product from 17,000 acres of land. In 1906 there was 7,000 acres planted to beets; in 1907, 9,000 acres, and in 1908, 10,000 acres, while for 1909 it is estimated that not less than 12,000 acres will be sown.

A maxim in the economy of beet sugar manufacture is, "Convert the product of a large acreage into a product of high value and small bulk, so it will stand transportation." The problem of labor to handle this enormous acreage has been solved by the importation of German-Russian families, all of whom, including the children, work in the fields. Outside the growing season they find other employment, so that the money earned in beet fields generally represents a year's surplus, or savings. Only twenty Japs were at work thinning and topping beets during 1908, the other class of labor having practically supplanted the Asiatics.

One man is supposed to care for six acres of beets and receives $20 an acre. In addition the farmer supplies a house, fuel and place for a garden. The growing season occupies about seven weeks.

In 1907 the factory received 100,000 tons of beets, and in 1908 115,000 tons, for which the grower was paid $5.00 a ton. In the latter year the average yield was estimated to be twelve tons an acre. It is reported that a Park City one 40-acre tract yielded 20 tons an acre.

Throughout the growing district the company maintains loading stations

to which the farmer hauls the beets. They are then taken to the factory in special trains. The mechanical process for handling the crop at the factory is interesting. At the west end of the main building, which is nearly 400 feet long and 85 feet wide, are located the bins into which the car loads and wagon loads of beets are dumped. From these bins they are floated in flumes to the elevators, which carry them to the third floor of the building. The machinery is so arranged that all handling is done by gravity from one process to another. The beets are dropped by the elevators into automatic weighing machines, which record the tonnage passing through the factory. The great hoppers drop each load mechanically into a chute leading to the slicers, where corrugated knives, revolving horizontally, cut them into strips called "cossettes." These fall upon wide belts, by which they are conveyed to the mouths of diffusion cells, adjustable barriers across the belt, filling each cell in turn. In these cells water is forced through the cossettes until all saccharine matter is dissolved. The pulp remaining is removed to silos, where it is stored for feeding stock.

The sweetened water from the diffusion cells contains mineral salts gathered by the beets from the soil, and dissolved along with the sugar. The first process to remove these salts is a carbonation with milk of lime, which precipitates them by chemical reaction. The liquid is then filtered and the entire process is repeated, after which the juice is subjected to sulphur fumes and filtered for the third time. About 12,000 tons of lime rock is used yearly. After the salts have been thoroughly eliminated, the remaining liquid is reduced to the proper density for boiling, the super-moisture being driven off in a quintuple effect evaporator. The boiling is done in great vacuum pans until the sugar grains are formed.

The molasses is separated by a centrifugal machine and the sugar goes to the dryer, and is then placed in sacks of 100 pounds each.

The plant is operated by steam, the boiler furnaces consuming 35,000 tons of coal in 1907. Feeding operations connected with the plant have been successful and very profitable. About 2,000 cattle and 12,000 sheep are fattened yearly upon beet pulp and alfalfa. Of the latter 3,000 tons are purchased at $6 a ton, delivered. The stock thus finished has, in every instance, topped the Chicago market.

Taken as a whole, the sugar factory has been a wonderful incentive to the entire district tributary to it.

Incidentally there has been organized the Montana Beet Growers' Association, with headquarters at Billings. Its objects are to organize and regulate subordinate or district associations throughout the State, promoting harmony and cooperation among those engaged in beet culture, and to provide mutual benefit and protection. Annual meetings are held on the second Saturday of December.

CREAMERIES.

In November, 1908, there were forty creameries in Montana, of which twenty-four were in operation. Five years ago there were not to exceed five creameries in the State. The average cost of these plants is estimated at $5,500 each.

It is not difficult to assign a reason for the idle plants. They have simply been built in communities where the farmers were not interested in dairying or have failed to supply the necessary milk. Few if any states surpass Montana as a dairy state, and the possibilities in this direction will not long be overlooked by those who are now locating here, many of whom have had experience at home with the business.

The prices paid for butter fat, 19 cents up to as high as 35 cents a pound, is fully equal, if not higher, than is paid elsewhere. Most of the plants are owned by the farmers themselves, and the profits, if any, are also kept at home.

The report of this Bureau, published in 1902, suggested the propriety of the creamery associations bringing in their own herds of cows. At the Eureka plant this has been done, $5,000 being raised for the purpose.

The cows are sold to patrons, who pay one-fourth down and the balance is deducted from the monthly check for cream in agreed sums.

While there are instances of marked success in certain localities, the large percentage of idle plants denotes a lack of systematic effort to encourage and induce farmers to keep the cream supply up to the full capacity of the plant. However, the general condition of the industry is reported good in localities where operations are going on, and better times are looked for soon at all creameries.

A systematic effort, which included a visit to each plant, as well as circular letters, failed to secure the figures necessaray to give the total pounds of butter made during either 1907 or 1908. For four months the Billings creamery averaged 75,000 pounds a month, which was a greater amount than was produced in any of the others.

The Crescent Creamery in Butte produces 30,000 pounds of butter a month.

At Townsend the creamery is in a most flourishing condition, being well patronized by farmers generally all over the county.

There is room for a vast deal of improvement at some places, but it seems improbable that investors will allow their money to be entirely lost without a supreme effort to revive and extend interest in the project sufficient at least to maintain operations.

FARMERS' ORGANIZATIONS.

Within a very few years the spirit of co-operation and organization among farmers has produced some remarkable conditions. Like all others who suffer from outside influences, until they are impelled to resort to combined efforts for relief, the farmer is prone to relapse after a few victories, losing interest in the machinery of organization to which he is under the deepest obligations.

Followed to their logical and inevitable conclusions, farmers' organizations would place their members in an enviable position of independence. They would not only allow the farmer to fix the price of the products of his farm, but would enable him also to fix the prices of the articles he must purchase and to share in the profits upon those necessities. However, it is not necessary at this time to supply any argument for organization to Montana farmers. For the benefit of other communities a few actual results are given, which, in themselves, speak volumes for the movement.

GALLATIN COUNTY FARMERS' ALLIANCE.

The Gallatin County Farmers' Alliance was organized in 1885 and in the winter of 1904-5 was incorporated with a capital of $10,000 in shares of $10 each which was increased in 1907 to $100,000, $56,000 paid in, the greater part of which was invested in the old Farmers and Merchants elevator which was taken over June 15, 1907, at a price of $12,600, and a new steel elevator which was built at Belgrade at a cost of $41,000. The former has a capacity of 85,000 bushels and the latter 125,000 and is said to be the most perfectly equipped of any elevator west of Minneapolis, having a loading possibility of 1,000 bushels of grain per hour.

At the present time this enterprise is officered by Messrs. Zade Morgan, president; Harry L. Smith, treasurer, and F. T. Stevenson, manager. Officers are elected annualy.

The directly actuating cause which brought this organization into commercial activity was the differences between the farmers and the local business men on the price of binding twine. In the year 1903 the local merchants were asking 14 cents per pound for binding twine. Feeling that this price was exorbitant a small group of farmers met at the county court house and after discussing the subject exhaustively they appointed a committee to investigate the prices of binding twine in carload lots by corresponding with eastern wholesale houses. At a called meeting soon afterwards this committee reported that it had been able to locate firms from which this twine could be bought at 10 cents per pound laid down at Bozeman, whereupon orders were at once taken from farmers for a carload. Then, out of consideration for the business men of the town of Bozeman, another committee was appointed prior to ordering the twine to see what prices they, the business

men, would be willing to make by the carload, with the result that the magnanimous concession of one-half cent from the former named local price of 14 cents was made or 13 1-2 cents per pound.

This experience was somewhat discouraging to the farmers, but still loyal to the idea of patronizing home industry, the same committee was instructed to visit the business men and inquire as to whether or not if the farmers would agree to concentrate their trade with certain business houses in the purchase of the staple necessaries of life, such as groceries, they would be given a reduction in prices. But the business men were also organized and acted as a unit against this proposal. It was then, in the winter of 1904-5, that the incorporation of the Alliance took place and from that time to the present the business men and the Alliance have pursued the even tenor of their ways, both apparently satisfied with the terms of the unwritten understanding.

In 1907 a committee of farmers then went to the local millers with the suggestion that there was too great a disparity in the price of wheat and flour and proposed that the freight charge from Bozeman to Minneapolis of 21 cents be divided by giving the farmers 10 cents of that charge on the price of their wheat delivered at the local elevators, but this was refused. The price of flour was $2.40 per cwt. and the price the farmers were getting for their wheat was 60 cents per bushel. The farmers contend that three bushels of wheat will yield 100 pounds of flour, 11 pounds of bran and 12 pounds of shorts. The millers contended that it takes five bushels of wheat to make 100 pounds of flour and refused to make any concessions.

During the summer of 1907 the Alliance handled grain as follows:

101,076 bushels of hard wheat valued at	$112,969.96
50,080 bushels of soft wheat valued at	41,170 49
6,068,110 pounds of oats valued at	82,372.00
941,295 pounds of malting barley valued at	12,312.00
2,035,585 pounds of white hulless barley valued at	25,926.00
303,135 pounds of rye valued at	37,075.00
37,510 pounds of chop valued at	449.70
117 tons of hay valued at	1,655.00
Total	$312,274.75

In addition to the above there has come into the market through this organization up to August 1, 1908, from the tail ends of the 1907 crop, products to the value of $135,000, making a total handled in 13 1-2 months of $447,274.75.

So far as the handling of grain is concerned the plan of operation is to charge a commission of one cent per bushel for selling wheat for members of the Alliance. Two cents per bushel for receiving, cleaning and loading into cars all kinds of grain in bulk. Two cents per cwt. for selling oats, barley, rye, etc., and 2 1-2 cents per cwt. for selling all kinds of grain when sacked. One cent per bushel per month is charged for storage in the elevators. Those other than members of the Alliance are charged just twice the above figures.

There are 430 stockholders in the Alliance business and applications pending from 35 to 40 more which will be acted upon by the membership under the rules governing the organization.

The Alliance has a warehouse at Bozeman where is stored a supply of farm machinery of all kinds, including binding twince, grass seeds, oils, axle greases and machinery repairs. The profits arising from the handling of grain and sales of the various commodities amounted to about $5,000 during 1907, notwithstanding that all these things are furnished at a very much lower price than they can be bought elsewhere. These profits were reinvested in the business but for the year 1908 it is apparent a snug dividend will be paid to each stockholder in addition to the savings the members have made on purchases.

This organization has experienced the usual fight with the International Harvester Company, the so-called trust, for this concern has refused to sell the farmers through the mercantile branch of their organization excepting it may dictate not only the prices at which the various machines shall be sold by the Alliance at retail to its members but it also fixes the terms of sale, whether cash or on time.

As an instance in point the Alliance wrote the International Harvester people for prices on binding twine. The response of the trust was an inquiry as to "whether you sell machinery of the McCormick make, the Deering, or Champion?"—all trust products. "We can quote you prices on binding twine if you do; otherwise not." Of course the trust knew full well that the Alliance was patronizing independent houses for its machinery and so sought to forestall its usefulness by withholding trust wares. And, according to the testimony of members of this branch of the Alliance, it appears that machinery from independent concerns was altogether more satisfactory and durable as well as cheaper than the same kinds of machinery that had been used by members who had previously purchased trust goods. An instance is cited in the case of the independent concern known as the Minnie Harvesting Company, of Minneapolis, from which the Alliance had been purchasing combined reapers and binders of a reallly more satisfactory grade than the trust machine for $90.00 laid down at Bozeman as against the trust's price of $123.00 for a McCormick harvester, with the requirement that it be sold at $140.00 for cash or $150.00 on time. The Minnie harvester was sold to farmers at $108.00 cash, with no dictation as to terms or the retail price.

The trust becoming aware of this in the year 1906 bought out the Minnie business and closed the factory, but the Gallatin Valley farmers have found other independent concerns to deal with and have not yet been forced to use trust goods. They buy their twine from August Post of Moulton, Iowa, at $1.50 less per cwt. than 1907, and are enabled to make the selling price in 1908 at $10.00 per cwt. as against $11.50 in 1907. The International Harvester people are selling twine no better at $10.50 and one of their traveling agents personally informed the manager of the Alliance that they "could not sell for less," whereas the Alliance is in position at present to sell the farmers at $9.50, if necessary, without losing money. In January or February of each

year the Alliance's manager makes a canvass among the farmers to ascertain approximately the number of acres that will be sown to grain and based upon these reports he orders about three pounds of twine for each acre of grain. Experience has shown this to be a close estimate of the need of twine for use at harvest time the following season.

The headquarters of the Alliance's business is located at Bozeman and the office is equipped with telephone communication. In the manager's office is the phone of the Rocky Mountain Bell Company, and the Independent, both of which have long distance communication with other towns, and the latter is connected with all the country lines. The office also has a private line to its elevator at Belgrade as well as a private line to its elevator at the railroad tracks at Bozeman.

There are not less than 200 miles of main lines in the country running to farmers' homes and there are from four to ten wires on the poles. About 220 families are served. These lines have been constructed at an estimated cost of $100 a mile, including instruments and all. These phones have been of inestimable service in bringing the farmers together in an organization for their mutual protection and advancement by bringng them into close and quick communication with each other and the business world generally. There is a central station 28 miles in the country and it is not uncommon for "Country Central" to call up the manager of the Bozeman headquarters to ask him to be at the office after supper that some person or persons want to talk to him about markets or prices. For instance, a farmer on Pass Creek, 25 miles away from Bozeman, inquires the price of No. 1 Northern wheat and gets the day's quotation with the advice to load on the Milwaukee road, as he has only eight miles to haul there instead of 20 miles to Belgrade, the nearest station on the Northern Pacific.

Another out in what is known as the Holland Settlement, 25 miles in another direction, wants to know "if you have room for a carload of oats in the Belgrade elevator and how soon will you likely be able to dispose of them to advantage and what price may I expect to receive per cwt.," all of which is immediately settled by phone.

Another calls from the Rees Creek country, 20 miles north of Bozeman and asks the manager to send him "Repair No. 54 for my plow," and it goes out the first thing next morning by express.

Another calls from Cottonwood, 12 miles south of Bozeman, inquiring prices on barley, hay, etc.

Many notable instances of saving and gain in the matter of prices of farm produce continually occur similar to the following examples: A farmer was offered by a local dealer $1.00 per cwt. for a large, choice batch of oats. He phoned the local Alliance manager asking what oats were worth and received the information that if he would deliver them at Bozeman within five days he would get $1.25 per cwt. from the Alliance, but he must give an answer immediately in order that the Alliance manager could contract their sale. The phone went up, the oats came to town inside of the time limit and the farmer had cleared enough to pay his fees in the Alliance and all expenses of his telephone line for years to come.

Another was offered 80 cents a bushel for wheat by a local dealer. This farmer phoned Alliance headquarters and received word that if he would load them at Maudlow on the "Jaw Bone" Railroad, 45 miles from Bozeman, but near the farmer's home, he would receive 90 cents a bushel

The Alliance seems to have been specially fortunate in its selection of a manager in the person of Mr. T. F. Stevenson, who has lived in the Gallatin Valley since 1886, and for many years worked behind the counter of some of the best mercantile houses in Bozeman and latterly has been a practical and successful farmer. He accepted the management of the Alliance business February 1, 1906.

THE FARMERS' PROTECTIVE ASSOCIATION.

Flathead county also has had a similar organization for a number of years, whose experience in certain matters was identical with that of their Gallatin brothers.

The Farmers' Protective Association was organized at Kalispell with less than fifty members, mainly through the efforts of Mr. E. C. Hedges, the secretary-treasurer of the body. In August, 1907, the Association was incorporated with 250 members, having a capital stock of $50,000, of which $11,000 in cash was paid in. The articles of incorporation have been amended to allow an increase of the capital stock to $200,000 on January 1, 1908, by increasing the price of shares from $50 to $500 each.

Detractors of the movement gave the Association 60 days' to live. Operations were begun at once in purchasing grain from the farmers at considerably higher than prevailing prices, the grain being loaded directly on the cars, as the Association had no elevator.

On October 1, 1907, they started an up-to-date city grocery store, which paid better than 25 per cent dividends the first year on an investment of $16,000. Cash is paid for everything bought and all bills are discounted. These people had the wisdom to buy the services of an experienced grocer to manage this department of their business, and the results are in evidence.

The International Harvester Company tried to sell them twine at something like three cents a pound more than they paid for Standard and Sisel brands, which cost them $9.06 cwt., and they used three cars of it with only 2,000 pounds carried over. The International people have had to carry over two cars.

The Farmers' Protective Association has also completed an elevator which opened for business September 1, 1908, which has a capacity of 100,000 bushels and cost $30,000. This is one of the best equipped elevators in the State—possibly the best. A warehouse is included in this cost. A part of the appliances is an oat clipper, a feed mill, a wheat cleaner and an appliance which is so arranged that a farmer can dump his grain where it runs through a tester and grader and if the farmer is not satisfied with his returns of a wagon load of wheat it is dumped back into his wagon and he can take it home. In the warehouse is a potato grader and facilitates for loading potatoes at the rate of a carload an hour.

During September, 1908, they paid the Great Northern Railway $4,400 freight on produce that was moved from this elevator and warehouse.

Before this elevator was completed for business at the beginning of the season farmers were receiving 50 to 60 cents a bushel from the old private company's elevator and two weeks later that company paid 60 to 72 cents for the same grades of wheat.

Dakota elevators estimate that 100,000 bushels of oats shipments in a season is a fair business. This Farmers' Protective Association shipped 250,000 bushels in 1907, before the elevator was built, which netted the farmers f. o. b. Kalispell $1.21 1-4 cwt. The private company was only paying 90 cents when the farmers concern began buying. The first day they went into the market the price advanced 20 cents cwt.

The tremendous success of this concern is in having experienced business management in both the elevator business and store. It is unquestionably the greatest of all the co-operative concerns in the State and has survived despite all the intrigue to put them out of business. It is simply an enormous money-making or money-saving concern and thoroughly successful and admirable in every detail. No private business in Montana is conducted in a more ship-shape fashion and it is all this in appearance as well.

THE FREE FARMERS' UNION.

Mr. J. M. Burlingame, of Belt, organized the Free Farmers Union while traveling for the Rocky Mountain Husbandman in 1906. Among the most notable things that it stands for is good roads, better government, farmers to have a larger share of the public offices, buying and selling direct, co-operative markets. It has 600 members, some of them living in Teton and Fergus counties. The Judith country is fully as strong as Cascade county.

Under guise of the plank which stands for better government this organization undertook a reformation in the customs of the County Board of Commissioners in Cascade county. It had been the habit of the old board to sit almost continuously throughout the year—20 to 30 days a month. This organization claims to have been the means of electing a farmer by the name of Peter Johnson as chairman of the board and since that election the board has been able to transact its business in from five to eight days a month. That campaign was conducted on the slogan of good roads and economical county government. The county indebtedness has also been reduced $10,000.

The Union is supported by donations.

Carbon and Fergus counties both have large and influential farmers' organizations, the former operating a large store and meat market.

The field for active work was never in better condition than at the present time, and a number of organizers could be used to great advantage. These organizations mean so much to their members that every farmer should be willing to lend his support to the movement and they offer a full and adequate reply to all the problems sought to be solved by the President's "Commission on Country Life."

HORTICULTURE.

From the fifth biennial report of the State Board of Horticulture a number of very interesting facts are taken. During the year 1907 a total of 361,408 fruit trees of all kinds were shipped into the State, while the number for 1908 was 446,500, making the enormous total for the two years 807,908. Besides these, no less than 782,000 trees were inspected in local nurseries. These figures, which do not include trees privately propagated, give some idea of the rapid progress of horticulture in Montana, as well as directing attention to the future greatness of this industry.

Aside from the fruit trees, which embrace apple, pear, peach, plum, prune, cherry, apricot and quince trees, there were 251,839 shade, evergreen and ornamental trees, shrubs, roses and bulbs imported during the two years, as well as 646,323 small fruit plants.

The latter include black and dewberries, raspberries, mulberries, currants, gooseberries, strawberries, grapes and high bush cranberries. As showing the market in Montana for fruit and berries, it is stated that during 1907 and 1908 not less than 1,301 1-2 carloads of these products were inspected. This involved handling the enormous total of 1,008,435 packages, of which 187,442 were local freight and express shipments in Butte.

The inspection of all fruit resulted in the condemnation of 3,810 packages, which were destroyed by the inspectors.

It is also shown that 190 acres of land owned and operated by Montana nurseries were inspected and found to be entirely free from pests and diseases. The number of small plants inspected in these institutions is given at 185,000, and the trees at 782,000.

The report of the Board contains much valuable information, including an article by Hon. Fred Whitesides, the former secretary, on Dry Land Fruit Culture; there are instructions on planting, pruning and care of orchards; methods of packing fruit, and many recipes for mixing and applying sprays for the destruction of pests. This valuable work may be had by writing to Mr. Joseph W. Wallisch, 33 Hirbour Block, Butte.

The efficient work of the members and officers of the State Board of Horticulture, supported as they are by a very stringent and comprehensive inspection law, has resulted in a condition in Montana orchards which leaves nothing to be desired in the way of clean and perfect fruit. It has been well said that Montana produces the only apple grown which may be eaten in the dark with perfect safety and confidence. Not only is every shipment of trees from outside nurseries and every package of fruit from outside orchards inspected, but the district inspectors are required to visit and spray all local orchards, and they are empowered to destroy an entire fruit district if it should prove necessary to eradicate a pest.

While Montana is sending out several hundred carloads of apples yearly, some of the fruit going to foreign countries, the figures given above show in a degree the extent of the home market, and an idea of the time which must elapse before there will be a production to equal domestic consumption.

There are many localities in the State which never have an opportunity to purchase home-grown fruit or berries because of the limited supply or the inability to overcome transportation difficulties.

In the solution of these problems there is practically unlimited opportunity for profitable and congenial occupation for many people. None of the really great fruit regions are in more than a preliminary stage of development and the returns are sufficiently large to satisfy any investor.

FRUIT GROWERS' ASSOCIATIONS.

In April, 1907, Professor Roy E. Fisher, Horticulturist at the Bozeman Agricultural College, organized the Bitter Root Fruit Growers' Association at Hamilton. This action was necessitated by the fact that the 150 fruit raisers in this section were disposing of their product without any regard to conditions in the markets, style of package, sorting or other features so requisite to success in the business, and to the reputation of the district. They were making individual consignments to commission men, thus flooding certain markets, when, with proper and systematic management, better prices were possible, as well as wider distribution of the product.

In the present young condition of most of the orchards in the valley, it is impossible for an individual to furnish an entire carload of one variety of apples; the result was that if a car was loaded at all it was a mixed lot, and more than likely very carelessly sorted. With the present organization it is entirely practical to pick shipments so closely that many carloads can be shipped, where each box in the car contains the same number and grade of apples, carefully packed and sorted, to command the highest prices. The secretary of the Association, Mr. George D. Brooks, of Hamilton, gathers statistics as to the number of trees of each variety in bearing, the probable yield from each orchard and sample boxes of the fruit.

Buyers are then invited to the valley who make bids upon the crop from the samples exhibited. Heretofore it has been impossible to attract buyers to the valley because of conditions, but during the past season bidding was quite spirited, and the best prices ever known in the district were realized.

Under the rules adopted all authority will be centralized in the secretary and the Association will have a representative in each orchard during harvest to sort sizes and varieties, as well as to supervise packing, thus making the new system absolutely faultless so far as preparation for market is concerned.

In no other way can the high prices reported from other fruit regions be realized by Montana growers.

The Flathead County Fruit Growers' Association was organized in the spring of 1907, with the late Governor Robert B. Smith as president and George Betzer, secretary. The rules and methods of this Association are very similar to those of the Bitter Root Association, the object being to get

the fruit to the buyer in such condition as to not alone command prices, but to enhance the reputation of the district as well. All fruit is inspected by the Association and if not properly packed the grower is charged 12 1-2 cents a box for repacking, and loses all discarded fruit. During 1907 twenty carloads of apples were shipped to Chicago and Minneapolis and many to Devils Lake. Great Falls is also a large consumer of this fine fruit.

It is estimated that there are 300,000 trees in the valley of which 75,000 were set out in 1907, and fully 90 per cent in the past four years. Not to exceed 15 per cent of the total is in bearing, the remainder being still too young. The two leading varieties are the Wealthy and the Red McIntosh. Boxes are used for packing the product, the number of apples ranging from 96 to 140 to a 50-pound box.

Gallatin County Fruit Growers also have an organization, but their efforts thus far have been mainly directed to the propagation and marketing of strawberries, for which the valley has a great reputation.

LIVE STOCK.

Conditions in the livestock industry during the past two years, all things considered, have been fairly good. The winter of 1906-7 was very severe, but the following season was ideal and much hay was carried over.

Cattle have not brought the extreme high prices of former years, but the returns have not been altogether disappointing. The most momentous changes are going on in this industry, but the new conditions are in every way conducive to the general upbuilding and development of the State.

The days of range cattle in enormous herds are numbered. One by one the great cattle outfits are being disposed of, the forcer ranges are being settled or have been absorbed by the forest reserves.

True, there are localities where vast areas in private ownership, with leased land and forest privileges, permit the maintenance of thousands of range cattle and sheep. But it is equally true that in many instances these very conditions have prevented such localities from sharing proportionately with others in growth and development.

On the other hand there is absolutely no doubt that the total number of cattle in the State, as well as their grade and value, will be vastly increased by the change to small bands, bred and fitted for market as in eastern states. Under the old regime cattle for the Montana ranges were brought over the trail from Texas, up through Wyoming or Utah and finally shipped east to the corn belt for fattening. But the advance in land values there and the high prices of corn have steadily moved the business of fattening cattle for the market westward. There has also been a marked change in the class of cattle until Texas long horns are no longer known.

In 1886 Montana was already a great cattle state and attracting attention as such, but the severe storms of that year practically destroyed the industry. Its revival may be said to mark the beginning of cattle feeding in the State for, to protect themselves against such losses in the future, stockmen began cutting and storing wild hay for winter. This developed stock-feeding in certain sections of the State, where wonderfully nutritious native grasses still produce the highest priced and most attractive beef cattle offered in any market. The experience of these feeders, the agencies above mentioned, the production of a cheap and effective finishing ration from irrigated farms, the matchless climatic and other conditions prevalent in Montana, all combined to establish here the westward movement of the business of fattening cattle for market. This industry will become permanent.

The necessary grains to take the place of corn, the alfalfa, clover, native grasses and root crops to balance the ration, the cheap land, abundant water, sunshine, dryness in feeding pens and adequate transportation facilities are all included as features of Montana's fitness for this work.

There remains only the necessity of demonstrating to stockmen the folly of selling their cattle on the hoof, to place them at once and forever in position to reap every possible return from their labor and investment.

For years this Bureau has urged the establishment of packing houses by stockmen themselves near the feeding yards. This is the inevitable and rational conclusion which should mark the climax of evolution in the cattle industry in Montana. It has been thoroughly demonstrated that the big profits of the packing houses lie in by-products rather than in meat.

These enormous values, then, are entirely lost to stockmen who sell live cattle.

Montana wool shrinks in weight a little over 60 per cent when scoured, but gains in value more than 300 per cent. The changing of these losses to profits, or rather the retaining of the full of these products at home, is the end to seek. The farmer's first lesson is to sell no product in its raw state. Stockmen and others must learn to observe this rule as well that the enormous drain now placed upon natural resources in this State may be turned to the use and benefit of her own people. The various stock growers associations may well take action upon this proposition, and the sooner this is done the greater prosperity the State will enjoy.

The writer fully expects to live to see Montana mills consume the wool, Montana packing houses kill and dress the beef and mutton, Montana refineries and wire mills handle the copper, and Montana streams furnish the power to operate these industries.

The number of range cattle returned for assessment in 1906 was 636,654, while for 1908 the figure was 528,972. Evidences of wonderful improvement in grades and breeding are not wanting, as is clearly shown in the exhibits at state and county fairs, and through visits to various noted stock farms. Through all the changes, past, present and to come, Montana maintains a reputation for beef, mutton and wool that is enviable indeed, and no matter what limitations are placed on the public ranges, her future production of these staples will increase as the country is settled, until the present output, both in quantity and quality, is equal to the greatest and best on earth.

SHEEP AND WOOL.

The number of sheep imported into Montana during 1907 was 3,016 bucks and 147,408 mixed sheep, and for 1908 the number was 3,148 and 160,138 respectively. These figures are obtained from the inspection made by the State Veterinarian, as required by law.

There were 38,006,613 pounds of wool shipped out of Montana to eastern markets during the year 1907 and 42,717,797 pounds shipped out during 1908. In neither year is any allowance made for wool held over by individuals, but it is generally agreed among leading growers that there can hardly be more than a million pounds held in either year, and probably much less. For the year 1908 the figures are a surprise, showing the largest wool yield the State has ever produced. When the foregoing is considered in connection with the facts brought out in the course of an investigation, the results of which are printed in full, it is apparent that the number of sheep in the State is greater than has been generally believed. By using the average weight per fleece of 7.74 pounds as a divisor, it is apparent that there were 5,427,211 sheep sheared in the summer of 1908, which places Montana in the first rank of all the states instead of second as will be noted at a later page in the reports of the National Wool Manufacturers. The facts of the investigation conducted by the Bureau in connection with the Montana Sheep Commission follow:

Circulars were sent to all the sheep owners in Montana July 20, 1907. Only those replies which were apparently consistent have been used in the tables. The total number utilized was 299, which is a good 20 per cent of all owners.

The chief object of the inquiry was to establish a basis for an estimate of the fleece per sheep sheared, there having been a great disparity of opinion expressed among sheep men on this point. A similar investigation was made for the year 1897, when reports from owners of 489,579 sheep showed an average fleece sheared of 7.758 pounds. For the year 1907 reports from the owners of 1.741,097 sheep show an average fleece of 7.740 pounds, a figure so close that the facts are substantially unchanged.

The figures relating to this particular phase of the subject have been selected with a view to authenticity and handled with particular care. They are believed to represent the true condition.

The small number of reports received from some counties and a comparatively larger number from others would, perhaps, suggest that there is room for inaccuracy in the comparison of conditions between them, but when facts incident to the industry during the winter of 1906-7 are recalled the tables as presented seem to reflect unusual credibility. The winter and spring of that year was particularly hard by spasms and an unusual number of sheep

died. Many were only saved by superhuman efforts in getting feed to them. In localities the price of hay soared to $20 a ton ,and even then in a good many cases the real "rub" was to get it to the animals before they would perish.

It is fair to assume that such conditions influenced the growing wool adversely as shown in Valley county's average, which is the smallest that year in the State.

Carbon county shows the highest average fleece and, notwithstanding the number of sheep covered in the report from this county, is less than any except Gallatin, a close study of the figures does not suggest that the county would be reduced in rank even though an equal number of reports were submitted, for the reason that three of the individual reports out of six show a greater fleece per sheep than the average of Powell county; a fourth is within 0.02 per cent as much, the fifth is 0.32 per cent greater than the average of all the counties and the sixth stands only 0.03 per cent less. It would, therefore, seem to be difficult to figure Carbon county out of first rank of all the counties in the State, Powell second and Cascade third.

The more the averages between the counties are studied the more convincing they apparently become as a basis for estimate. And there is no question that the State may claim 7.74 pounds of wool sheared from each sheep, all ages and kinds, in the year 1907.

The reports are not well adapted to arriving at a practical conclusion as to the percentage of sheep killed by wolves and coyotes, but a careful review of them together with the figures, as submitted, leads to the idea that 2 per cent is altogether conservative.

TABLE SHOWING STATISTICS OF SHEEP AND WOOL IN MONTANA BY COUNTIES.

Counties	Number of Sheep Owned March 1, 1907.....	Sheep and Lambs Sold for Slaughter Out of Montana Since Sept. 1, '06..	Number of Sheep Sheared 1907.....	Number of Pounds of Wool Sheared..	Average Price of Wool.....	Number of Pounds of Wool Consigned.....	Advance Received on Consignment..	Number of Sheep and Lambs Destroyed by Wild Animals.....
	2,100	.....	2,100	15,957	21.00	.....	.....	20
	2,200	850	2,150	14,500	19.00	.....	.....	75
	3,300	2,500	3,300	2,200	21.00	.....	.....	35
	13,700	4,000	13,500	115,000	20.50	.....	.....	548
	3,000	.....	3,000	2,000	21.00	.....	.....	200
	2,200	1,400	2,200	14,000	21.00	.....	.....	60
	9,300	3,000	9,250	7,600	21.00	.....	.....	300
	4,700	1,100	2,300	16,000	20.00	.....	.....	100
	4,000	.....	4,100	33,671	21.50	.....	.....	400
Beaverhead.....	44,500	12,850	41,900	326,678	186.00	.....	.....	1,738
	9,400	3,600	9,250	75,500	20.75	.....	.....	60
	6,300	.....	5,100	40,250	21.25	.....	.....	200
	4,000	2,100	4,000	29,000	20.00	.....	.....	.....
	5,300	1,500	5,250	38,000	19.50	.....	.....	220
Broadwater	25,000	7,200	23,000	180,750	81.50	.....	.....	480
	8,000	6,000	8,000	83,000	21.00	.....	.....	300
	1,015	.....	1,000	11,440	21.50	.....	.....	20
	1,050	.....	3,850	8,100	21.50	.....	.....	10
	3,900	.....	3,850	33,000	19.50	.....	.....	40
	2,890	.....	2,890	26,000	20.75	.....	.....	120
	1,860	1,400	1,860	15,000	21.50	15,000	5,000	37
Carbon	18,715	7,400	18,650	176,540	125.75	15,000	5,000	527
	16,713	.....	16,572	156,514	21.00	.....	.....	10
	69,557	44,594	69,523	660,071	21.00	.....	.....	100
	25,692	23,572	25,563	196,919	21.00	.....	.....	30
	27,190	15,556	26,368	191,976	21.00	.....	.....	25
	2,700	500	2,265	18,000	20.00	.....	.....	25
	5,300	1,600	5,100	36,000	20.00	.....	.....	6
	380	.....	378	3,000	21.00	.....	.....	3
	2,360	.....	2,333	14,500	21.00	.....	.....	33
	7,000	1,000	6,000	42,000	19.60	.....	.....	25
	10,000	.....	10,000	78,000	21.00	.....	.....	500
Cascade	166,462	86,822	164,102	1,396,980	206.60	.....	.....	757
	1,950	1,200	1,940	12,000	20.50	.....	.....	50
	12,000	.....	12,000	80,000	20.50	.....	.....	300
	2,000	.....	2,000	13,896	20.25	.....	.....	....
	16,000	16,000	8,500	65,000	22.50	.....	.....	250
	1,050	.....	1,041	7,818	22.00	.....	.....	....
	7,300	.....	7,300	61,000	20.00	.....	.....	100
	5,000	.....	5,000	34,000	22.00	.....	.....	50
	2,500	3,600	5,000	35,000	20.00	.....	.....	25
	7,000	1,400	7,000	52,333	21.00	.....	.....	75
	2,700	500	2,800	15,000	22.25	.....	.....	5
	2,500	.....	2,500	18,000	.....	.....	.....	15
	2,100	.....	2,100	15,000	20.80	.....	.....	....
	957	.....	950	7,600	20.50	.....	.....	5
	2,100	.....	2,100	14,000	20.70	.....	.....	100
	13,863	2,500	13,863	102,000	21.40	.....	.....	75
	5,000	1,200	4,756	36,000	20.70	.....	.....	30
	6,000	.....	6,000	40,000	20.00	.....	.....	200
	1,500	.....	1,500	11,000	21.30	.....	.....	6
	2,700	.....	2,700	21,000	21.00	.....	.....	15
	1,500	1,000	1,500	10,000	22.20	.....	.....	30
	5,700	500	5,600	40,000	21.60	.....	.....	....
	13,100	3,500	13,000	100,000	21.20	.....	.....	....
	1,500	.....	1,500	10,000	20.00	.....	.....	....
	12,150	3,600	12,050	87,000	21.70	.....	.....	150
	3,700	.....	3,700	23,000	20.00	.....	.....	150
	9,200	.....	9,200	77,000	20.70	.....	.....	25
	1,650	.....	1,613	12,394	21.20	.....	.....	50
	1,300	.....	1,300	12,000	21.00	12,000	200	2
	2,300	.....	2,250	18,000	21.00	.....	.....	75
	2,000	800	2,000	19,000	21.00	.....	.....	....
	6,500	1,800	6,400	45,000	21.30	.....	.....	25
	1,914	.....	1,900	15,000	21.20	.....	.....	....
	1,800	.....	1,785	18,322	21.00	.....	.....	30
	1,800	1,400	1,800	14,000	22.20	.....	.....	....
	21,500	17,000	21,000	180,000	21.50	.....	.....	....
	3,500	3,000	3,500	31,000	20.00	.....	.....	....
	7,000	.....	2,400	18,000	21.00	.....	.....	100
Chouteau	192,334	59,000	181,548	1,370,363	757.10	12,000	200	1,938

TABLE SHOWING STATISTICS OF SHEEP AND WOOL IN MONTANA BY COUNTIES.—Continued.

Counties	Number of Sheep Owned March 1, 1907	Sheep and Lambs Sold for Slaughter Out of Montana Since Sept. 1, '06	Number of Sheep Sheared 1907	Number of Pounds of Wool Sheared	Average Price of Wool	Number of Pounds of Wool Consigned	Advance Received on Consignment	Number of Sheep and Lambs Destroyed by Wild Animals
	1,675	2,020	1,605	9,630	21.50	.....	.....	450
	1,400	730	1,347	11,300	22.00	.....	.....	15
	2,100	.....	2,100	12,600	21.00	.....	.....	....
	.....	1,200	3,800	28,684	23.00	.....	.....	250
	11,800	2,600	11,500	73,000	23.00	.....	.....	130
	3,000	.....	3,250	22,750	21.00	.....	.....	300
	3,800	.....	3,800	28,437	23.00	.....	.....	50
	2,600	.....	2,600	14,000	21.00	14,000	2,800	200
	9,000	1,000	9,000	70,000	23.00	.....	.....	25
	5,000	.....	5,000	35,000	22.00	2,500	4,500	....
	6,100	.....	5,948	37,000	22.50	.....	.....	200
	10,400	.....	10,110	79,876	22.20	.....	.....	150
	450	.....	450	3,500	23.00	.....	.....	....
	5,000	1,200	5,000	34,000	23.75	.....	.....	500
	1,900	100	1,900	16,540	24.37	.....	.....	....
	3,600	300	3,600	27,000	21.75	.....	.....	200
	2,200	.....	2,200	16,000	22.50	.....	.....	50
	4,500	500	4,500	30,000	23.62	.....	.....	150
	37,000	17,000	32,000	200,000	21.00	.....	.....	4,000
	2,000	1,400	1,700	14,000	23.00	.....	.....	200
	10,000	1,500	10,000	80,000	23.75	.....	.....	300
	2,500	.....	2,450	17,500	22.25	.....	.....	40
	3,200	.....	3,200	25,600	22.25	12,000	2,160	40
	2,030	445	2,027	12,756	22.25	.....	.....	10
	9,000	2,000	8,600	60,000	22.00	.....	.....	270
	627	325	627	5,000	21.75	.....	.....	10
	3,600	.....	4,000	24,000	.....	24,000	1,000	150
	2,880	1,405	2,860	19,266	.....	19,266	.....	75
	2,070	1,200	2,056	14,300	23.25	.....	.....	4
	4,500	1,500	4,500	26,300	22.50	.....	.....	200
	8,000	1,900	8,000	70,000	22.00	.....	.....	300
	9,500	.....	9,500	69,000	22.50	.....	.....	25
	7,000	.....	7,000	52,000	23.00	.....	.....	50
	4,600	.....	4,578	41,152	23.37	.....	.....	125
	4,300	8,800	4,300	32,000	23.50	.....	.....	....
	12,000	.....	12,000	75,000	23.25	.....	.....	75
	1,500	.....	1,500	8,863	21.00	.....	.....	25
	3,000	.....	3,000	16,000	22.00	.....	.....	150
Custer	203,832	47,125	201,638	1,422,054	808.86	71,766	10,460	8,719
	22,000	7,000	22,000	170,000	23.00	.....	.....	440
	6,347	500	6,347	40,000	22.50	.....	.....	80
	3,000	.....	2,200	11,000	22.50	.....	.....	100
	1,500	.....	1,500	9,000	22.50	.....	.....	....
	11,500	900	11,500	67,000	22.00	.....	.....	....
	2,000	3,300	1,800	10,200	21.50	.....	.....	30
	4,500	5,600	4,400	36,000	23.00	.....	.....	....
	800	140	800	4,500	21.00	.....	.....	....
	3,500	2,500	3,000	33,000	22.50	.....	.....	120
	1,300	.....	1,235	7,285	21.00	.....	.....	50
	2,800	1,600	2,775	16,000	22.50	.....	.....	50
	2,200	.....	2,200	14,000	22.50	.....	.....	40
	2,200	.....	2,187	13,879	22.00	.....	.....	50
	.....	1,300	3,900	19,400	22.50	.....	.....	25
	30,000	65,000	50,000	400,000	22.50	.....	.....	900
	.....	.....	2,000	12,600	21.25	.....	.....	50
	1,252	1,670	1,252	7,962	23.50	.....	.....	38
	8,000	1,800	5,240	32,210	22.50	.....	.....	75
	2,800	.....	2,800	16,700	22.50	.....	.....	100
	600	.....	600	3,500	21.00	.....	.....	10
	4,500	.....	4,500	31,500	22.00	.....	.....	40
	6,000	.....	5,970	50,600	21.00	.....	.....	80
	1,600	250	1,600	10,340	19.75	.....	.....	50
Dawson	118,399	91,560	139,136	1,013,676	507.00	.....	.....	2,328
	1,900	.....	1,875	14,000	21.00	.....	.....	20
	5,500	.....	5,500	38,000	22.00	.....	.....	40
	1,600	.....	1,580	10,600	19.50	.....	.....	30
	5,750	.....	5,700	42,000	22.00	.....	.....	115
	16,300	.....	16,104	124,832	21.00	.....	.....	....
	2,800	.....	2,775	17,800	20.50	.....	.....	25
	9,000	2,418	9,000	71,000	22.50	.....	.....	50
	7,500	2,900	4,600	4,132	20.50	.....	.....	....
	35,190	9,390	35,006	285,668	22.50	.....	.....	....
	2,000	.....	2,000	13,000	22.00	.....	.....	....
	3,000	1,100	2,900	20,000	20.50	.....	.....	50
	1,665	2,750	1,642	13,008	21.00	.....	.....	6
	23,200	23,000	20,000	190,000	21.00	.....	.....	300
	.....	.....	8,000	64,000	22.90	.....	.....	....

TABLE SHOWING STATISTICS OF SHEEP AND WOOL IN MONTANA BY COUNTIES.—Continued.

Counties	Number of Sheep Owned March 1, 1907	Sheep and Lambs Sold for Slaughter Out of Montana Since Sept. 1, 1906	Number of Sheep Sheared 1907	Number of Pounds of Wool Sheared	Average Price of Wool	Number of Pounds of Wool Consigned	Advance Received on Wool	Number of Sheep and Lambs Destroyed by Wild Animals
	8,900	3,100	10,600	76,000	20.50	.....	.....	75
	8,800	2,160	8,700	68,000	20.50	.....	.....	150
	1,200	1,200	1,100	7,500	20.25	.....	.....	300
	2,000	.....	1,950	18,000	21.75	.....	.....	10
	3,900	.....	3,856	28,000	22.00	.....	.....	36
	2,500	1,000	2,400	28,000	19.00	.....	.....	35
Fergus	142,605	49,018	145,288	1,136,540	421.40	.....	.....	1,242
	161	.....	161	1,138	20.50	.....	.....	17
	7,000	10,000	3,000	30,000	22.50	.....	.....	....
	518	.....	519	4,200	21.00	.....	.....	3
	200	.....	225	2,200	22.00	.....	.....	4
	5,800	1,800	5,800	41,800	21.50	.....	.....	25
	120	.....	120	1,090	21.00	.....	.....	....
	.....	.....	400	3,180	.....	.....	.....	....
	96	94	2	25	21.75	.....	.....	3
	1,000	1,000	2,405	20,720	21.75	.....	.....	....
Gallatin	14,895	12,894	12,632	104,353	172.00	.....	.....	52
	2,500	2,300	2,565	17,000	22.25	.....	.....	135
	17,000	.....	10,000	85,000	19.50	.....	.....	....
	4,500	.....	4,500	36,154	21.12	.....	.....	....
	6,700	.....	3,700	24,000	20.00	.....	.....	100
	6,000	.....	6,000	48,000	21.25	.....	.....	....
	4,000	1,400	4,000	28,000	22.00	.....	.....	50
	12,000	.....	7,600	60,000	21.00	.....	.....	....
	7,000	4,000	7,000	52,000	22.00	.....	.....	....
Lewis and Clark	59,700	7,700	45,365	350,154	169.12	.....	.....	285
	100	.....	100	700	21.00	.....	.....	5
	4,450	1,000	4,400	37,262	20.50	.....	.....	25
	4,800	1,100	4,800	38,400	20.00	.....	.....	....
	4,500	500	6,500	53,000	21.00	.....	.....	100
	9,000	.....	8,800	75,000	21.00	.....	.....	264
	7,000	6,000	7,000	59,888	21.00	.....	.....	50
Madison	29,850	8,600	31,600	264,240	124.50	.....	.....	444
	2,500	.....	2,500	20,000	20.25	.....	.....	30
	5,400	.....	3,300	26,000	22.25	.....	.....	25
	2,100	3,000	2,050	16,000	21.00	16,000	500	90
	21,000	5,000	21,000	168,000	22.00	.....	.....	200
	.....	.....	18,634	142,734	22.50	.....	.....	....
	5,000	.....	7,000	53,000	22.65	.....	.....	50
	10,000	3,600	10,000	81,000	20.50	.....	.....	300
	.....	6,000	2,800	21,000	22.50	.....	.....	....
	170	20	165	1,385	22.00	1,385	.....	6
	8,000	.....	2,500	19,000	23.00	19,000	.....	100
	78,000	2,200	7,786	47,000	22.75	.....	.....	200
	4,800	.....	4,700	43,310	22.50	.....	.....	....
	1,500	200	1,500	11,890	22.00	.....	.....	10
	6,500	5,000	6,500	60,000	19.00	.....	.....	....
	3,800	.....	2,500	21,000	22.50	.....	.....	....
	6,500	2,200	6,500	50,000	22.00	.....	.....	150
	2,400	1,950	2,368	19,654	21.75	.....	.....	35
	2,900	5,700	2,900	23,200	22.50	.....	.....	35
	290	.....	280	2,700	22.25	.....	.....	20
	5,700	2,100	5,700	45,000	22.50	.....	.....	100
	2,000	1,800	2,000	18,500	22.00	.....	.....	8
Meagher	168,560	33,370	112,683	890,373	460.40	36,385	500	1,359
	2,100	430	1,700	12,000	21.00	.....	.....	125
	3,575	2,900	3,540	22,000	22.25	.....	.....	150
	296	.....	291	2,500	21.00	.....	.....	1
	3,000	2,300	3,000	21,000	22.50	.....	.....	25
	3,426	2,966	3,426	26,980	22.00	.....	.....	250
	11,000	5,600	11,000	86,000	22.50	.....	.....	30
	775	422	751	6,700	21.00	.....	.....	20
	9,600	9,200	9,200	55,000	22.65	.....	.....	350
	9,071	3,060	9,600	68,000	21.50	.....	.....	....
Park	42,843	26,818	42,508	300,180	196.40	.....	.....	951

TABLE SHOWING STATISTICS OF SHEEP AND WOOL IN MONTANA BY COUNTIES.—Continued.

Counties	Number of Sheep Owned March 1, 1907	Sheep and Lambs Sold for Slaughter Out of Montana Since Sept. 1, 1906	Number of Sheep Sheared 1907	Number of Pounds of Wool Sheared	Average Price of Wool	Number of Pounds of Wool Consigned	Advance Received on Consignment	Number of Sheep and Lambs Destroyed by Wild Animals
	3,400	.....	3,400	29,000	21.50	.....	.....	....
	3,500	.....	3,500	33,000	21.00	.....	.....	100
	2,900	125	2,870	19,500	20.50	.....	.....	75
	3,075	.....	3,036	27,336	21.50	.....	.....	50
	3,000	.....	3,000	25,000	22.00	.....	.....	....
	2,800	.....	2,800	23,000	20.00	.....	.....	25
	12,700	.....	12,700	112,000	22.50	.....	.....	....
Powell	31,375	125	31,306	268,836	149,00	.....	.....	250
	2,000	.....	2,000	14,000	21.00	.....	.....	100
	4,000	.....	4,000	30,000	21.87	.....	.....	200
	26,400	350,400	74,000	647,886	22.00	.....	.....	740
	10,500	1,600	9,200	65,000	21.00	.....	.....	200
	2,000	.....	2,000	15,000	22.00	.....	.....	....
	5,075	800	5,000	36,000	20.00	.....	.....	112
	2,200	.....	2,098	15,240	21.25	.....	.....	80
	2,440	.....	2,430	16,750	21.00	.....	.....	50
	9,000	2,000	8,300	50,400	21.50	54,000	8,064	63
	4,700	1,600	4,700	26,000	21.50	.....	.....	125
	1,057	.....	1,036	8,010	22.00	.....	.....	50
	4,500	500	4,400	35,200	21.50	.....	.....	25
	9,000	1,000	8,700	53,000	21.00	.....	.....	300
	1,900	.....	2,300	20,000	22.50	.....	.....	50
Rosebud	84,772	357,900	130,164	1,032,486	300.12	54,000	8,064	2,095
	3,400	.....	3,275	26,200	21.00	.....	.....	100
	1,500	.....	1,500	12,700	18.50	.....	.....	20
	2,000	.....	2,000	16,000	20.00	.....	.....	25
Silver Bow	6,900	.....	6,775	54,900	59.50	.....	.....	145
	1,700	.....	100	700	21.20	.....	.....	....
	7,000	.....	7,000	62,000	22.25	.....	.....	200
	2,800	1,300	1,500	11,500	21.00	.....	.....	75
	3,300	1,730	3,300	32,145	22.00	.....	.....	18
	8,000	4,000	8,000	60,000	22.00	.....	.....	111
	5,000	6,900	9,000	66,000	20.50	.....	.....	150
	300	1,700	300	1,961	20.50	.....	.....	20
	2,125	1,200	2,100	17,000	21.00	.....	.....	10
	2,800	3,500	2,800	23,000	21.50	.....	.....	20
	2,400	.....	2,300	15,000	21.50	.....	.....	15
	4,300	1,950	2,350	18,800	22.00	.....	.....	50
	46,000	7,000	46,000	391,000	20.75	.....	.....	133
	3,700	2,300	3,700	29,000	19.50	.....	.....	150
	9,500	2,700	9,350	74,800	21.00	.....	.....	50
	8,000	2,500	8,000	57,000	22.25	.....	.....	35
	2,132	.....	2,103	15,000	21.00	.....	.....	50
	1,800	.....	1,800	11,700	21.50	.....	.....	50
	10,000	.....	10,000	70,000	23.25	.....	.....	50
	.....	.....	8,000	60,000	22.00	.....	.....	100
	2,000	3,929	1,970	13,750	22.00	.....	.....	80
Sweet Grass ...	122,857	40,709	129,673	1,030,356	428.70	.....	.....	1,367
	2,800	.....	2,400	18,000	22.00	.....	.....	20
	3,000	.....	3,000	28,500	20.00	.....	.....	220
	2,500	.....	3,200	23,000	19.50	.....	.....	....
	2,500	.....	2,500	17,500	20.50	.....	.....	....
	7,000	.....	7,000	53,000	21.50	.....	.....	25
	3,030	.....	3,000	25,000	20.00	.....	.....	25
	9,000	.....	9,000	70,000	21.65	.....	.....	....
	4,500	.....	4,546	33,000	20.25	.....	.....	....
	3,500	.....	3,500	32,000	21.50	.....	.....	10
	900	.....	900	5,600	20.50	.....	.....	13
	2,700	.....	2,700	21,600	20.50	.....	.....	6
	2,900	.....	2,850	24,000	22.37	.....	.....	50
	2,100	1,050	2,100	14,700	21.50	.....	.....	30
Teton	46,430	1,050	46,696	365,906	271.77	.....	.....	399
	275	.....	210	1,040	20.00	.....	.....	....
	1,750	6,300	1,750	14,000	21.00	.....	.....	17
	1,500	.....	1,500	7,500	21.00	.....	.....	7
	2,500	.....	2,500	13,000	21.00	.....	.....	113
	1,770	.....	1,700	9,900	21.00	.....	.....	11
	2,000	.....	1,950	12,000	21.00	12,000	1,800	25
	1,400	500	1,300	10,100	21.50	.....	.....	150
	9,500	4,500	9,500	65,000	22.00	.....	.....	150
	2,700	1,000	2,600	17,000	22.00	.....	.....	40
	3,500	1,200	3,100	17,000	21.00	.....	.....	25

TABLE SHOWING STATISTICS OF SHEEP AND WOOL IN MONTANA BY COUNTIES.—Continued.

Counties	Number of Sheep Owned March 1, 1907.....	Sheep and Lambs Sold for Slaughter Out of Montana Since Sept. 1, 1906	Number of Sheep Sheared 1907.....	Number of Pounds of Wool Sheared..	Average Price of Wool.....	Number of Pounds of Wool Consigned.....	Advance Received on Consignment..	Number of Sheep and Lambs Destroyed by Wild Animals .....
	8,000	225	7,500	40,000	21.50	.....	.....	50
	4,500	5,600	3,500	24,000	21.50	.....	.....	50
	2,200	1,000	2,000	14,000	21.00	.....	.....	26
	.....	.....	1,800	11,600	18.00	.....	.....	9
	10,000	197	10,000	74,000	21.25	36,000	3,600	....
	3,100	4,400	3,100	23,000	21.25	.....	.....	....
	5,600	1,500	5,400	27,000	20.50	.....	.....	100
	1,138	.....	1,118	8,200	21.00	.....	.....	55
	3,525	2,275	1,250	9,000	22.00	.....	.....	4
	8,000	.....	7,600	42,000	22.50	.....	.....	200
	1,050	.....	1,000	6,000	22.00	.....	.....	3
	2,000	.....	1,800	9,980	24.00	9,980	1,497	50
	1,400	600	1,350	8,500	21.00	.....	.....	5
	980	.....	800	4,400	21.00	.....	.....	50
Valley	78,388	28,697	74,628	468,220	510.00	57,980	6,897	1,140
	5,000	10,700	60	360	15.00	.....	.....	....
	2,500	.....	2,496	19,006	20.00	.....	.....	120
	3,100	.....	5,900	40,888	21.00	.....	.....	150
	12,000	50,000	24,000	280,000	21.00	.....	.....	500
	14,000	.....	14,000	90,000	22.25	.....	.....	420
	3,000	4,000	5,400	37,000	21.25	.....	.....	....
	45,500	6,000	56,300	460,000	21.37	.....	.....	250
	15,000	1,000	15,000	104,000	19.12	.....	.....	150
	5,300	.....	5,290	30,000	20.12	.....	.....	200
	2,000	.....	3,000	22,500	22.00	.....	.....	50
	2,500	8,000	2,250	16,000	21.50	.....	.....	....
	6,200	7,000	4,500	36,161	22.00	.....	.....	30
	5,000	3,000	5,000	40,000	23.00	.....	.....	50
	1,600	800	800	1,200	21.00	.....	.....	25
	11,000	4,300	9,000	75,000	21.00	.....	.....	150
	8,300	.....	8,209	65,250	23.67	.....	.....	50
Yellowstone ...	142,000	94,800	161,205	1,317,365	335.28	.....	.....	2,145

SUMMARY.

	Number of Persons Reporting...	Number of Sheep Owned March 1, 1907.....	Sheep and Lambs Sold for Slaughter Out of Montana Since Sept. 1, 1906	Number of Sheep Sheared 1907.....	Number of Pounds of Wool Sheared..	Average Price of Wool.....	Number of Pounds of Wool Consigned.....	Advance Received on Consignment.	Number of Sheep and Lambs Destroyed by Wild Animals .....
Beaverhead	10	44,500	12,850	41,900	326,678	186.00	.....	.....	1,738
Broadwater	4	25,000	7,200	23,600	180,750	81.50	.....	.....	480
Carbon	6	18,715	7,400	18,650	176,540	125.75	15,000	5,000	527
Cascade	9	166,462	86,822	164,102	1,396,980	206.60	.....	.....	757
Chouteau	37	192,334	59,000	181,548	1,370,363	757.10	12,000	200	1,938
Custer	38	203,832	47,125	201,638	1,422,054	808.86	71,766	10,460	8,719
Dawson	23	118,399	91,560	139,136	1,013,676	507.00	.....	.....	2,328
Fergus	20	142,605	49,018	145,288	1,136,540	421.40	.....	.....	1,242
Gallatin	9	14,895	12,894	12,632	104,353	172.00	.....	.....	52
Lewis and Clark	8	59,700	7,700	45,365	350,154	169.12	.....	.....	285
Madison	6	29,850	8,600	31,600	264,240	124.50	.....	.....	444
Meagher	23	168,560	33,370	112,683	890,373	460.40	36,385	500	1,359
Park	9	42,834	26,818	42,508	300,180	196.40	.....	.....	951
Powell	7	31,375	125	31,306	268,836	149.00	.....	.....	250
Rosebud	14	84,772	357,900	130,164	1,032,486	300.12	54,000	8,064	2,095
Silver Bow	3	6,900	.....	6,775	54,900	59.50	.....	.....	145
Sweet Grass ..	20	122,857	40,709	129,673	1,030,356	428.70	.....	.....	1,367
Teton	13	46,430	1,050	46,696	365,906	271.77	.....	.....	399
Valley	24	78,388	28,697	74,628	468,220	510.00	57,980	6,897	1,140
Yellowstone ...	16	142,000	94,800	161,205	1,317,365	335.28	.....	.....	2,145
Total.....	299	1,740,417	973,638	1,741,097	13,470,950	20.97	247,131	31,121	28,361

COMMENT OF SHEEP GROWERS.

In connection with the investigation as to the average fleece per sheep, each grower was invited to comment on the condition of the industry and such remarks as were made are reproduced in full, arranged by counties.

BEAVERHEAD COUNTY—Sheep in this section are in a healthy condition. There is not a case of scab in this locality. Grey wolves bred in the National Park are becoming quite numerous and destructive. The greatest drawback we have is caused by the arbitrary rules on the Forest Reserve and inexperienced men who administer them.

The reserve laws have seemed very unsatisfactory. The North Big Hole Reserve allows only four months grazing during the summer and no winter range at all.

Our expense is so great with the county and grazing taxes that this, together with the losses and running expenses, eat up all the profits. We paid $320 for grazing on the Forest Reserve and then were cut off from the winter range altogether and it was given to a man who never paid out a cent for the summer range.

BROADWATER.—Our principal handicap at present is lack of free range. The forest reserves take the best of the summer ranges charging 10 cents per head for three months' use. The number is limited and never exceeds what is applied for and paid for in the early spring, thus shutting off all buying, selling and trading among flockmasters.

I think the bounty on coyotes ought to be doubled.

CARBON.—Range and prices of sheep good. Have a forest reserve on Pryor Mountains which is a nuisance in many ways. Wool much cleaner than usual, as we had more rain this spring. Lamb crop averaged 87 per cent in this neighborhood.

Our sheep have paid us good money and we are very well satisfied with results.

CASCADE.—Don't think it pays well to feed sheep hay during the winter. Mine were fat all winter and sheared good wool.

Not many wolves about here, but the coyotes get thick every year and I expect they got as many as 500 lambs this year and now and then an old sheep—perhaps fifty during the year.

CHOUTEAU.—There is considerable trouble through this part of Montana relative to floating bands of sheep scattering the scab. Would respectfully call the Sheep Commission's attention to this matter and think they should do something to cause men who are in the habit of trailing sheep to produce a bill of health, as it is a great expense and annoyance.

Prices of wool and mutton good. Help very scarce for lambing, shearing and haying. Range conditions generally good, feed and water plentiful. Hay is abundant. The winter of 1906-7 unusually severe—the worst we have ever had.

Industry is in good condition. One of its chief difficulties is inability to get satisfactory help.

Sheep look good at present. More hay than we can put up. Lambs

selling from $2.75 to $2.90. Spear grass is very bad and some lambs dying from its effects.

Sheep are healthy and there is money in the sheep business.

The industry is now on a good paying basis. The ranges are in good condition and it would be a great hardship to inflict us with government control of the public range. Let matters stand as they are along that line.

I lost about 300 sheep from the hard weather and poison.

There is no necessity of loss except through carelessness in herders and the want of good help. We lose quite a number during the lambing season, mostly from poison weeds and the ewes not being able to deliver their young.

Sheep of all kinds high in this vicinity. Outlook good for the sheep business.

It seems that the sheep industry should frame a bounty law that would be effective. The law in regard to scab is administered too loosely. In our part of the State scab has been in one owner's outfit for three years.

CUSTER.—Twenty-two hundred sheep froze to death.

My loss was about 250 head. About one-third of these were killed by coyotes. My wool was sold for cash delivered at the railroad.

During the last winter and spring I lost about 1,500 head. Saved only 55 per cent of lambs at lambing time. Sheep are doing exceptionally well this summer. Grass and water plentiful.

I think it would be a good plan to raise the bounty on wolves and coyotes instead of cutting it down or taking it off altogether. I would raise it on wolves especially for they are quite numerous in this part. I hope you can do something.

Poison from death camas destroyed 100 sheep.

The assessment on livestock for bounty purposes should be legalized and the bounty on coyotes, coyote pups and wolf pups raised to $5.00.

Loss from November 1, 1906, to March, 1907, 30 head. Incompetent herders, poison, coyotes caused loss of more than 200 from March 1 to June 30, 1907. Cost of losses, wintering, etc., from November 1, 1906, to March 15, 1907, 27 cents per head. Cost of lambing, 12 cents per lamb. Increase 87 per cent. Estimated cost of running sheep, 85 cents per annum.

The bounty on wolf pups should be raised to $10; coyotes to $5. We will not get any permanent relief until this is done.

We feel that a larger bounty on coyotes would be of great benefit, as they, of all the wild animals, do the most damage.

Sheep in good health. No disease in this vicinity. Lamb crop about 70 per cent.

Old sheep wintered good but lambs did badly. Lost more sheep since June 1, 1906, than in fourteen years before, mostly from cold rains after shearing and bad winter. I have lost since June 1, 1906, over 2,000 head, but if wool stays at 23 cents and lambs at $3.25 we will come out of that all right.

Has been an extremely bad year for sheep business in Custer county.

Loss nearly 25 per cent. Wool light and stunted to a certain extent. Large percentage of dry ewes. Lamb crop light.

Conditions are favorable here if you own or control your own range; otherwise your right to free range is disputed by settlers who claim a prior right.

The range is in fine condition and water is easy to get. I expect to buy 1,000 ewes this fall.

Sheep men should consolidate and sell wool at its value. Also, we ought to have laws to protect sheep the same as other range stock.

It should be made compulsory to dip all sheep and lambs for ticks the same as scab. Probably the best time would be after shearing as then the lambs would receive the full benefit of the dipping and it would cost less, which would be an object to make a better job of it.

I was short on feed and shelter. Lost the heaviest on lambs and a number of them lost lots of wool this spring. Will have 2,000 wethers for sale this fall.

The sheep business has never been in a more satisfactory condition since we have been in it than now, although the expense is greatly increased.

Sheep and lambs doing well and in healthy condition.

I sold out my sheep because I lost 500 to 600 every year from coyotes and wolves.

DAWSON.—Twenty-five per cent loss from severe winter. Lamb crop does not exceed 45 per cent in Dawson county. Demand for breeding ewes very strong at 20 per cent above one year ago. Range in excellent condition.

Last winter was extremely severe and I had a very heavy loss—about 3,700 head. Had eight men and six teams plowing snow and driving hay, but I had the loss just the same.

We lost about 2,000 sheep from hard winter and about 100 from wolves and coyotes. Raised about 350 lambs from 1,500 ewes. Fed from December 20, 1906, until the last of March.

While the price of sheep and wool is good the business has not been profitable this year. Heavy losses during the winter, light wool clip, and a short lamb crop with increasing expense of handling sheep has wiped out any benefits from high prices.

Cold rain and wind killed several thousand sheep the first part of June, 1906, after being sheared. Sheep not sheared did not suffer.

Sheep have done well after such a hard winter and such a cold, late spring. The sheep industry is O. K.

I hear the bounty is taken off. I would be in favor of raising the bounty instead of taking it away. The wolves and coyotes are getting quite thick around here. They come in and kill sheep in the middle of the day.

June 1st, 1907, I sold 1,600 two-year-old wethers at $5.50 each, unsheared.

FERGUS.—Coyotes are increasing rapidly. There is need for an increase in the bounty to encourage wolfing.

Exceedingly severe winter in this section. By all means pursue investigations for antidote for vegetable poisoning and increase bounty on coyotes.

We lost two per cent by wolves and coyotes last year. Coyotes getting worse. Range in fine shape with all the hay that people want to put up.

I can't see why the State of Montana should care how many sheep are in the State. The future of the State depends upon the men who have homes and will raise lambs and improve the different kinds of sheep and Montana denying its home-builders any protecton gets me. They don't seem to care a d—n for their best interests. Wild animals have killed about 1,200 sheep for me this year.

The wolves and coyotes are getting worse all the time. When we had a bounty on them they were killed off in good shape. If the bounty had been raised to $10 the pests would soon have been exterminated, but it was lowered to $3 and this was not enough inducement to hunt them and the State will have to pay more money by lowering it than by raising it.

At present I am practically out of the sheep business; only for a short time, though, as I consider it the best stock business in Montana.

The worst trouble we have here is from floating bands coming from the Yellowstone country to summer on the Musselshell and in the bad lands. They pay no attention to sheds, deeded land or fences unless some one is watching them all the time. Something ought to be done to stop this practice.

There are no sheep for sale in this vicinity. Buyers are offering $3.25 to $3.50 for lambs and $4.50 to $5.25 for ewes.

We can't give any accurate account of sheep and lambs killed by coyotes. Our counts are short from time to time and we can't tell why. We are more troubled with coyotes during lambing (May) than any other time, and this annoyance has not diminished recently.

Everything is lovely.

My sheep run in an enclosed pasture. I only have a few, but I got 95 per cent of lambs this year.

Sheep are in good condition and are about 20 per cent higher than a year ago.

Industry at present very profitable. The increased use of mutton for food is as much a factor for the increased price of sheep as to sustain the value of wool.

All O. K.

Range in fine shape.

GALLATIN.—Our band is small but our losses are heavy considering they are nearly all full blooded Shropshires. I wish there could be some way to increase the bounty on coyotes. We are willing to contribute quite liberally to a stockman's bounty on coyotes killed in this vicinity.

I think there was one coyote that did me $50 damage. She would steal a lamb within thirty feet of the herder's wagon and would come into the lamb band in day time. The damage from coyotes and wolves, principally the former, in this State is something enormous if correct figures could be obtained.

MADISON.—I have 170 goats and sheep. Coyotes killed seven goats

during the last year. Goats shear about five pounds per head and I get 33 cents for the mohair.

The sheep industry in general is very good though the expense is more by 50 per cent than it was six years ago on account of having to lease land, have more holdings in real estate and paying for forest reserve privileges. I contracted my lambs this year for $3.50 straight.

MEAGHER.—Sheep sheared light after the big rain.

I lost 1,200 sheep during hard winter. Also, lost 1,710 from being drowned in cloudburst.

Business is the best in the history of twenty-three years I have been in the State.

There is no disease among sheep in this section. Range is good. Hay crop is unusually large.

It has been very good this season.

Sheep raising is a very profitable business at the present prices of lambs and wool. Ranges and pastures are fine, but wolves and coyotes are very bad.

Have done well in the sheep business during the past year.

Good sheep are high and none for sale. Feed on range is good, good hay crop and everything looks prosperous.

I sold my sheep and lambs last year as the forest reserve is a detriment to the business in this section.

Sheep business has been fairly prosperous during the last three years, with good prospects for prices remaining good for a few years. The high prices for mutton clean out the ranges of lambs, so there is no perceptible increase of range stock.

PARK.—Wool was rather lighter and less oil than in former years.

I have less than 300 head, but am getting a few more gradually. Have found that what money I make from sheep is nearly all clear profit as I have pasture and do not have to herd them.

Not many old sheep killed by coyotes but I lost about 350 lambs during lambing and during the summer.

If it were not for the forest reserves there would be more sheep in Park county, but we are limited to certain parts of the mountains, and there are thousands of acres of feed going to waste.

My little band is doing nicely. I shall double soon, as it will not cost me much more to run 1,500 than it does 750.

My wool was extremely light and clean.

POWELL.—I think I can safely say that nine-tenths of my loss is free from coyotes.

We are short of summer range and will have to cut band down.

Range short. No outside range and very little range in the forest reserve; sheep are healthy.

I am increasing my band. Have not sold any sheep for two years. Lambing good; saved 100 per cent. Sheep have no enemes here, save from coyotes and free-traders.

RAVALLI.—We find the business quite profitable and intend increasing

our flock as rapidly as possible up to the full capacity of our ranch, which we think will carry about 50,000.

ROSEBUD.—The bounty on wolves and coyotes ought to be raised each year until they are exterminated. The range is the best this season that we ever saw for the past twenty-three years. The lamb crop will be one-third short of last year.

It is more expensive to run sheep now than it was ten years ago; costs more for everything and competent help is hard to get; in fact, the only disagreeable part of the business is the hired help.

I lost 2,000 during the winter.

I lost heavily last winter. I could only get an offer of 18 cents for my wool on account of its defects. Sheep are doing fine now and I am prepared for any kind of a winter that may come.

More coyotes and wolves every year. Prairie dogs increasing. Plenty of grass and hay this year. No disease of any kind.

Coyotes and wolves are very bad here. I had quite a loss from my small band and of the twenty-one lost between March 1 and shearing, most of it was from coyotes. We were bothered in this part of the State last winter by the "foot and mouth" disease.

Business is fairly remunerative under present conditions, but range conditions are getting congested and with a dry season profits would be small and business would have to be curtailed to some extent.

I wish there was a larger bounty on wolves and coyotes. There was a heavy loss on account of sore mouths last winter.

SILVER BOW.—The sheep industry is the best I have ever seen it outside of the forest reserves feature, which has, or will, ruin it in this part of the State unless there are changes made in the way they are run.

Sheep and range in fine condition.

SWEET GRASS.—I have no sheep. Was forced out of business by the forest reserves.

I probably lost 100 or more sheep and lambs by wolves and coyotes.

With Roosevelt and Pinchot's sheep-hating politics sheep will be out of the United States. What is the use of blowing about as quare deal when they don't intend to use it?

I think the bounty on coyotes should be $5. They are so bold in this valley they kill the chickens, even taking them from the pens. They come into my corral and kill mutton sheep. Something should be done to raise the bounty.

The sheep industry is very good at present prices, but I don't believe the business would stand much of a drop because the free range is a thing of the past and between the high-priced land and high labor we must get a good price for wool to make it pay.

The sheep industry has been excellent during the past two years.

For my part it is the best business I ever put my hands on.

We approve of forest reserves and the leasing of the same provided a

sufficient number of competent rangers are employed. As it is any one uses the reserve from June on to the detriment of those leasing them.

Hard to get good men at any price.

TETON.—Losses from poisoning on the range from an unknown weed have been unusually large, being about one per cent. It is thus evident that an investigation of the cause would be of great importance.

I have a pack of hounds that keeps my range free from wild animals.

We lost about 300 during the winter. Most of them died from grub in the head or water on the brain.

VALLEY.—Owing to the great loss in sheep in this county last winter and the small percentage of lambs saved last spring, there will not be more than one-half the usual number of sheep wintered in this county the coming winter.

The outlook for 1907 and 1908 never appeared better to me. Northern Montana is well supplied with hay and the range is in splendid shape.

The winter in this part of the county was very bad and forced us to feed hay for 100 days. We sheared a very light wool clip.

Last winter was a hard one. This summer we had lots of spear grass. I will only try to winter one band of wethers this winter.

The range system is nearly done for large outfits. We are bothered a lot with trail sheep in this section. They run our range regardless of winter quarters or anything else. I think there should be some way of stopping them. They pay no taxes where they run their sheep seven months of the year.

The sheep industry is paying in this county but we had a severe winter. I lost over 600 head and also 45 per cent of my cattle. The sheep and cattle business must be better provided for to insure success. The majority have taken too many chances.

The outlook for the sheep business never looked better since I have been in the county, 1882.

We had a hard winter and the losses generally heavy. Very small lambing last spring.

YELLOWSTONE.—We bought lambs in fall of 1906, fed until April, 1907, and sold them for range purposes.

Winter loss, 1.75 per cent. Sheep in fine condition now.

I bought 1,000 lambs in the fall of 1906 and fed them hay on my ranch for six months. I sold them for the range and made the hay bring me $9 per ton in feed to the lambs.

Our losses during the winter were very heavy. Had the severe weather continued two weeks longer there would have been none left. Grazing this season is better than it has been for several years. Needle grass is very troublesome.

Have sold 30,000 within ninety days and could have sold 100,000 at good prices. The business is very good at present.

I expect to winter about 10,000 ewes and lamb one band in sheds in March. I am very much in love with my sheep and give them the best possible care. Cut about 1,000 tons of alfalfa and find it pays to feed.

The only drawback to the business in this section is the contraction of the ranges. All are amply supplied with hay for winter. This year range grass and water have been ample and stock will go into winter in good shape.

FROM THE MANUFACTURERS' POINT OF VIEW.

The Bureau is indebted to the Annual Wool Review, issued November 1, 1908, by the National Association of Wool Manufacturers, for the following valuable comment and summary of the sheep and wool position of the world, a study of which cannot but greatly enlighten the Montana grower and prove of advantage at least to the point of suggestion.

In the pages which follow we present for the twentieth consecutive year our annual estimate of the domestic wool product based upon the number of sheep fit for shearing April 1, 1908, together with numerous tables relating to sheep in various countries, the wool product, and the manufactures of wool and their importation. We have followed our accustomed lines in gathering information. We have no purpose to serve except to secure the most accurate information possible under prevailing conditions; and in this effort we have given due consideration to the views of the best informed wool growers, wool buyers, and dealers, together with those of officials in States where sheep are assessed for taxation. The result, it must be remembered, is an estimate and not an enumeration.

The Number of Sheep.

We place the number of sheep fit for shearing at 40,311,548, an increase of 1,476,617 over 1907, when the total stood at 38,864,931. This increase is made up chiefly of additions to the estimated number in New Mexico and Arizona, where increases of 400,000 and 150,000, respectively, have been made. These account for nearly half of the increase, although small additions have been made in a few states both East and West. The larger figures for New Mexico are due to returns received from the Board of Sheep Commissioners, whose views we feel must be accepted as official and the best obtainable.

After six years of constantly and gradually increasing wool prices the tide began to ebb in the autumn of 1907; and because of the unsettled conditions caused by the financial disturbances in this country the wool year under review was most perplexing and unusual for all engaged in the raising, handling, or manufacturing of this product, so highly essential to the people of all civilized countries of the temperate zones.

The year 1906 had been an exceedingly prosperous one for all the above-named interests (save the wool dealer) and all indications pointed to a like experience in 1907; but with a suddeness, for which few were prepared, although warnings of dangers ahead had been sounded, a panic started in October and spread with amazing rapidity over the entire country, extending far beyond our limits to the remotest corners of the commercial countries of the world until all felt its baneful effects.

The increased cost of wool referred to was not caused by speculation as in the wool boom of 1899, but by the tremendous activity of machinery in all wool manufacturing countries. The constantly expanding production

of Australasia, as it recovered from the disastrous effects of the seven years' drought in the nineties, which decimated the flocks of the country, was not more than sufficient to supply the pressing demands of a wool-hungry world. Although as early as September, 1907, and English wool writer of standing, in urging prudent action upon the buyers of wool, had warned the trade that indications pointed to high prices for necessaries of life, which would tend to check the demand for textiles, the early Australian sales were characterized by an optimism which carried prices to levels that could be matched only by those of the boom season of 1899-1900. Trade was good, consumption was heavy, and all signs were interepreted as meaning another year of great demand for wool and of satisfactory profit for the wool grower. But as the wide spread effects of the panic began to be felt and realized throughout the world a spirit of caution pervaded all classes of business in all countries, so much does the prosperity of one country depend upon sound conditions in another in this day of quick communication and exchange of commodities. In this country working days were soon reduced from full to half-time, machinery previously humming by night and by day was suddenly stopped partially or entirely to reduce the output, and wool consumption was tremendously curtailed. The wise man, taking no chances, refused to pile up surplus stock. There was no demand for goods, the market being so lifeless and uncertain that manufacturers were willing to do little more than keep their mills moving sufficiently to furnish work for their forces and prevent them from scattering.

Under such conditions wool dealers were not eager to purchase the new clip unless at prices sufficiently attractive to compensate for the risks taken. Buyers were few and late in the field. Contrary to the custom followed for a few years previously there was little or no contracting for wool while still on the sheep's back; that dangerous practice, like the cancellation of orders, curing itself in seasons unfavorable to it. Another untoward feature, which also had its effect, was that the new clip was found to be deficient in length of staple, making it certain that there would be a considerable excess of short wool to swell the stock carried over from 1907 and for which purchasers could not be found. The presence of these unsought-for descriptions added difficulties to the situation and made dealers averse to offering any but conservative figures for the new clip.

Between the outbreak of the panic and the opening of the domestic wool season of 1908 the wool market was in a state of almost entire stagnation, the few sales effected being put through at considerable loss. When the bottom was supposed to have been reached, the next sale disclosed a still lower depth than that already touched. The situation was further complicated by the large stocks carried over by the dealers from the previous year. As spring approached they were anxious to be relieved of this burden so that they might prepare for the handling of the new clip about to come upon the market; but the panic and the mild winter had so restricted the consumption of wool fabrics that manufacturers showed little interest in their requirements for the next season, and consequently in the offerings,

a result of which was that the wool market was rarely in a worse condition than during the late winter months.

The season of 1907 had been an unremunerative one for the wool dealers, and that it had been no worse was due to the heavy purchases of large consumers very early in the autumn which enabled dealers to make a quick turnover of large quantities of wool at a moderate profit. Had these purchases been postponed some months or even weeks, the same wools could have been bought at a price thousands of dollars less than the amount paid for them. By narrow margin of time heavy losses were thus escaped by the dealers; but notwithstanding this escape the season has to be written down as one of the very worst known for a considerable length of time. With this experience fresh in mind and manufacturers pursuing a waiting policy, it is not surprising that the buyers went into the field with most conservative notions as to the prices at which wool should be purchased for their own safety. Everywhere doubt and uncertainty prevailed, causing a paralysis of business activity, and extreme caution was the watchword. Added to the business perplexities was the usual fear occasioned by the presidential canvass and doubt of its satisfactory outcome. Tariff revision was in the air and the return to better business was retarded by the knowledge that any change of the schedules or the rates of duty would have an unsettling effect.

Early in the year the effects of the panic were much in evidence in Australia, where marked losses in prices over those prevailing before the winter holidays were experienced. The lower prices had their influence in this country; but the wool growers, accustomed to continued years of prosperity and high prices, not taking the same view of market conditions as did the buyers, were unwilling to accept the low bids first offered, a deadlock ensued, and no wool was moved for some weeks. Complaint was immediately made that the buyers were offering much less for the wool than its value in the scoured condition justified, the belief being widespread that the dealers were attempting to make good in one year their losses on the clip of the previous seasons. Whether or not this complaint was justified is a question it is not necessary for us to pass upon, but the fact is that during March, April, and May foreign, as well as the domestic, markets were in a demoralized state, the average fall in prices for Australian wools being fully as great, if not greater, than on similar descriptions of domestic wool. This depreciation ranged from 23 per cent for fine merino and fine crossbreds to 40 per cent for medium and coarse qualities, which were more serious reductions than those suffered by the flockmasters of the United States. In all periods of depression it has been the experience that wool drops more in price than almost any other commodity; the explanation being that for wool a number of substitutes can be found; but for cotton and silk none is at hand.

A Storage Warehouse Built in Omaha.

As a result of these unsatisfactory offers in the early part of the season an impetus was given to the movement, inaugurated and strongly

endorsed by the Wyoming wool growers, to build a wool storage warehouse in Omaha. The warehouse was erected and one or two million pounds of wool went into it and off the market. Up to the present time it has been more of a storage scheme—a holding for better prices, than a place in which to hold auctions.

Similar Conditions Prevailed in Australia.

Such conditions were not peculiar to this country, for Australian growers, dissatisfied with prices bid at that time, withdrew their offerings from the auctions, selling at a later date when the market had strengthened and prices ruled firmer. Coincident with the rise in the Australian markets came a stronger tone in the markets of this country, and as prices became higher the refusal of the growers to accept the early offers proved a wise decision; but in our opinion the claim that "this warehouse saved the growers thousands of dollars" needs qualification, for it does not seem possible that the withdrawal from the market of a few million pounds of wool produced the effect attributed to it. Undoubtedly the warehouse afforded the growers using it a safe place in which to store their clips until time, bringing a better feeling in the market, enabled them to share in the higher prices realized the world over, but it is not probable that the removal of so small a proportion of the available wools affected results and forced the higher figures eventually secured.

Encouraged by what was considered its success, a much more ambitions and important undertaking than the Omaha warehouse was started by prominent western wool growers, one which, if it proves successful, will revolutionize the wool handling business as it has been transacted in this country since its foundation. This project, undertaken by the officers of the National Wool Growers Association, contemplates the erection or leasing, in some central accessible city, with adequate railroad facilities, of a warehouse in which it is hoped to gather from twenty-five to seventy-five million pounds of wool to be offered direct to manufacturers or perhaps sold after the manner of the London sales. The idea as far as outlined is to have the undertaking a co-operative one in which all wool growers will be invited to become stockholders and patrons. Denver, Omaha, St. Joseph, St. Paul, and Chicago have been visited by a committee of the association to inspect their respective facilities for the undertaking.

The project seems to express dissatisfaction with the present method of handling the domestic clip, because it is considered too expensive and because the growers are not in a position to know the value of their wool when the buyers appear after shearing time. The belief is quite general among the growers that each year they are prevented by a combination from getting fair market rates for the product, and they feel that with a storage warehouse, frequented by representatives of eastern manufacturers, and from which sales would be made direct to the mills, many causes of complaint would be eliminated, larger returns would be received, and greater contentment would reign among them.

Prices for Wool and Sheep Unsatisfactory.

In 1907 excellent returns were received for both wool and sheep. In 1908 the prices for wool were some 15 per cent lower than a year ago, but the losses thus experienced were not balanced by favorable returns for stock sold. In fact, experience on the stock side of the industry was just as unsatisfactory as on the wool side, so that the year, on the whole, was far from favorable, prices for sheep being some $2 less per hundred pounds this autumn than a year ago. But with the presidential contest settled, with idle machinery again in motion, and unemployed operatives being put to work on full time, the outlook for next season is distinctly more favorable. In fact, conservative opinion prevails that the country is about to start on another period of prosperity in which the textile industry and the growers of wool are sure to share.

Wool Product.

The total clip, excluding pulled wool, according to our estimate, is 270,138,321 pounds, an increase of 12,833,571 pounds as compared with last year. The scoured equivalent is 106,630,648 pounds, an increase of 5,671,530 pounds over last year, due partly to the lighter shrinkage of the wools in the present season.

This year, as last, Wyoming is credited with having produced the largest amount of wool in the grease, but owing to the greater shrinkage of its wools Montana's product, in the scoured condition still maintains a slight lead, the respective figures for the two states being 11,520,000 and 11,592,000 pounds. The increase in Wyoming's flocks and wool product is a surprise in view of the opinion expressed in 1903 by Senator Francis E. Warren, an acknowledged authority on the conditions in Wyoming and neighboring states, who was then of the opinion that "the zenith had been reached and passed so far as numbers of sheep and pounds of wool are concerned, at least for some years." Yet since that date the State has been steadily increasing her flocks and her wool product, until this year's figures for both are the highest in her history.

The detailed statement of number of sheep, weight of fleece, with percentage of shrinkage of wool product and the equivalent in scoured wool, the average value per pound and the total value of the clip will be found in Table I.

In this table the states have been arranged for convenience, as in years past, in three groups, the first embracing all those north of the Ohio River and east of the western boundary of Missouri, including Kentucky, Maryland, and West Virginia, in which the fleece wools, fine and medium, are of comparatively light weight and shrinkage; the second comprising the southern states, except Texas, where only medium wools are produced, and the third comprising all states west of the Missouri line, including Texas, New Mexico and Arizona, where the great bulk of the fine, fine medium, and medium wools of heavy weight and shrinkage are produced.

In the first group are found 11,466,548 sheep, or 28.4 per cent of the total flock, producing 71,372,321 pounds of wool in the grease, or 26 per

TABLE I.—WOOL PRODUCT OF THE UNITED STATES.—1908.

States and Territories	Quality	No. of Sheep of Shearing Age, April 1, 1908	Average Weight of Fleece, 1908	Wool Washed and Unwashed 1908
			Pounds.	Pounds.
Maine	Medium	215,000	6	1,290,000
New Hampshire	25% fine, 75% medium	70,000	6.2	434,000
Vermont	20% fine, 80% medium	175,000	6	1,050,000
Massachusetts	Medium	35,000	5.8	203,000
Rhode Island	Medium	7,000	5	35,000
Connecticut	Medium	35,000	5	175,000
New York	33% fine, 67% medium	850,000	6	5,100,000
New Jersey	Medium	45,000	5.5	247,500
Pennsylvania	25% fine, 75% medium	950,000	6	5,700,000
Delaware	Medium	7,000	6	42,000
Maryland	Medium	125,000	5.5	687,500
West Virginia	15% fine, 25% medium	525,000	5.5	2,887,500
Kentucky	Medium	600,000	5	3,000,000
Ohio	45% fine, 55% medium	2,000,000	6.5	13,000,000
Michigan	25% fine, 75% medium	1,500,000	6.4	9,600,000
Indiana	15% fine, 85% medium	800,000	6.3	5,040,000
Illinois	25% fine, 75% medium	650,000	6.5	4,225,000
Wisconsin	20% fine, 80% medium	850,000	6.25	5,312,500
Minnesota	20% fine, 80% medium	375,000	6.75	2,531,250
Iowa	30% fine, 70% medium	800,000	6.5	5,100,000
Missouri	15% fine, 85% medium	852,548	6.7	5,712,071
		11,466,548	6.22	71,372,321
Virginia	Medium	375,000	4.5	1,687,500
North Carolina	Medium	205,000	4.25	871,250
South Carolina	Medium	50,000	4	200,000
Georgia	Medium	225,000	3.5	787,500
Florida	Medium	100,000	3	300,000
Alabama	Medium	175,000	3.25	568,750
Mississippi	Medium	150,000	4	600,000
Louisiana	Medium	155,000	3.7	573,500
Arkansas	Medium	225,000	4.25	956,250
Tennessee	Medium	290,000	4.50	1,305,000
		1,950,000	4.02	7,849,750
Kansas	Fine, fine med., and medium	160,000	7	1,120,000
Nebraska	Fine, fine med., and medium	275,000	6.75	1,856,250
South Dakota	Fine, fine med., and medium	650,000	6.5	4,225,000
North Dakota	Fine, fine med., and medium	300,000	6.5	1,950,000
Montana	Fine, fine med., and medium	4,600,000	7	32,200,000
Wyoming	Fine, fine med., and medium	4,500,000	8	36,000,000
Idaho	Fine, fine med., and medium	2,500,000	7	17,500,000
Washington	Fine, fine med., and medium	480,000	8.5	4,080,000
Oregon	Fine, fine med., and medium	2,000,000	8.25	16,500,000
California	33% fall, 67% spring	1,900,000	7	13,300,000
Nevada	Fine, fine med., and medium	750,000	8	6,000,000
Utah	Fine, fine med., and medium	2,100,000	7	14,700,000
Colorado	Fine, fine med., and medium	1,500,000	7	10,500,000
Arizona	Fine, fine med., and medium	800,000	6.5	5,200,000
New Mexico	Fine, fine med., and medium	3,000,000	5.5	16,500,000
Texas	25% fall, 75% spring	1,200,000	6.75	8,775,000
Oklahoma and Indian Territory	Fine, fine med., and medium	80,000	6.5	510,000
		26,895,000	7.1	190,916,250
Totals		40,311,548	6.7	270,138,321
Pulled Wool			...	41,000,000
Total Product, 1908			...	311,138,321

TABLE I.—WOOL PRODUCT OF THE UNITED STATES.—1908.

Per Cent of Shrinkage, 1908	Wool Scoured, 1908	Average Value Per Scoured Pound, October 1					Total Value, 1908	States and Territories
		1904	1905	1906	1907	1908		
	Pounds.	Cents	Cents	Cents	Cents	Cents		
40	744,000	50	58	58	56	43	$319,920	Maine.
50	217,000	50	57	57	55	44	95,480	New Hampshire.
50	525,000	50	57	56	55	45	236,250	Vermont.
42	117,740	50	57	57	56	44	51,806	Massachusetts.
42	20,300	50	57	57	56	44	8,932	Rhode Island.
42	101,500	50	58	58	57	44	44,660	Connecticut.
50	2,550,000	55	60	59	58	47	1,158,500	New York.
50	123,750	50	60	59	58	45	55,688	New Jersey.
48	2,964,000	58	63	62	61	48	1,402,720	Pennsylvania.
45	23,100	50	56	55	55	45	10,395	Delaware.
45	378,125	50	57	55	55	44	166,375	Maryland.
48	1,501,500	65	60	60	57	49	735,735	West Virginia.
39	1,830,000	50	60	59	58	45	823,500	Kentucky.
49	6,630,000	58	63	62	61	48	3,182,400	Ohio.
50	4,800,000	55	61	60	59	46	2,208,000	Michigan.
45	2,772,000	53	58	57	56	44	1,219,680	Indiana.
50	2,112,500	52	56	55	54	42	887,250	Illinois.
49	2,709,375	52	65	60	58	40	1,083,750	Wisconsin.
51	1,240,313	50	54	53	52	42	520,931	Minnesota.
49	2,601,000	55	58	56	55	44	1,144,440	Iowa.
48	2,970,277	52	60	56	55	44	1,306,922	Missouri.
48.2	36,931,480	..	..	..	..	..	$16,663,334	
38	1,046,250	52	60	59	57	45	$470,813	Virginia.
42	505,325	50	56	55	54	40	202,130	North Carolina.
42	116,000	50	56	55	54	39	45,240	South Carolina.
40	472,500	50	56	55	54	40	189,000	Georgia.
40	180,000	50	56	55	54	40	72,000	Florida.
40	341,250	50	56	54	53	40	136,500	Alabama.
42	348,000	50	55	54	53	40	139,200	Mississippi.
42	332,630	50	56	55	53	40	133,052	Louisiana.
41	564,188	50	55	54	52	38	214,391	Arkansas.
40	783,000	50	58	58	57	45	352,350	Tennessee.
40.2	4,689,143	..	..	..	..	..	$1,954,676	
64	403,200	52	67	65	65	50	$201,600	Kansas.
64	668,250	52	67	65	65	50	334,125	Nebraska.
61	1,647,750	53	69	67	67	50	823,875	South Dakota.
60	780,000	53	69	67	67	50	390,000	North Dakota.
64	11,592,000	55	69	68	67	51	5,911,920	Montana.
63	11,520,000	55	70	69	67	49	5,644,800	Wyoming.
67	5,775,000	55	69	66	66	51	2,945,250	Idaho.
69	1,264,800	53	69	66	65	50	632,000	Washington.
69	5,115,000	55	69	68	68	52	2,659,800	Oregon.
66	4,522,000	53	69	67	64	41	1,854,020	California.
69	1,860,000	57	70	68	68	51	948,600	Nevada.
67	4,851,000	55	67	67	65	46	2,231,460	Utah.
68	3,360,000	52	66	65	63	42	1,411,200	Colorado.
65	1,820,000	53	67	65	65	47	855,400	Arizona.
64	5,940,000	50	65	63	60	45	2,673,000	New Mexico.
67	2,895,750	57	70	67	66	53	1,534,748	Texas.
68	163,200	50	63	63	61	44	71,808	Oklahoma.
66.4	64,177,950	..	..	..	..	..	$31,123,606	
60.5	106,630,648	54.1	65.4	63.8	62.3	46.6	$49,741,616	Totals.
30	28,700,000	46.7	57.4	54.3	50.2	41.6	11,953,000	Pulled Wool.
..	135,330,648	..	..	..	..	..	$61,694,616	Total Product, 1908.

cent of the whole product of 270,138,321 pounds, exclusive of pulled wool. In the third section 26,895,000 sheep, or 66 per cent of the total flock, produced 190,916,250 pounds of wool, or 70 per cent of the total clip.

In scoured condition the wools of the first group, owing to their lighter shrinkage, yielded 36,931,480 pounds, or 34 per cent of the total, while the third group produced 64,177,950 pounds, or 61 per cent of the whole.

When the value is considered it is found that the wools of the first group brought $16,663,334, or 33.7 per cent of the total value of $49,741,616, and the third group's clip was valued at $31,123,606, or 62.6 per cent of the total. The production of the second group is so inconsiderable a proportion of the total wool crop as to be almost a negligible quantity, although the number of sheep and the quantity of wool grown are about the same as for a number of years past.

Pulled Wool.

The amount of pulled wool has been most carefully considered and because of the apparent decrease in the number of sheep slaughtered and the scarcity of pulled wool at times during the year, the total has been reduced from 42,000,000 to 41,000,000 pounds. The shrinkage is continued at 30 per cent, making the yield equal to 28,700,000 pounds of clean wool.

The grades and values of pulled wool (scoured basis) are estimated as follows by Mr. William A. Blanchard, of Boston:

Fine and fine medium	15,300,000 lbs.
Medium and coarse	13,400,000 lbs.

TABLE II.—SCOURED WOOL, FLEECE AND PULLED.

	Product.	Decrease.	Increase.
1888 ..... pounds	136,591,955	3,964,730	.....
1889 ..... pounds	134,795,350	1,796,605	.....
1890 ..... pounds	139,628,220	.....	4,832,870
1891 ..... pounds	139,326,703	301,517	.....
1892 ..... pounds	145,300,318	.....	5,973,615
1893 ..... pounds	151,103,776	.....	5,803,458
1894 ..... pounds	140,811,508	10,811,508	.....
1895 ..... pounds	125,718,690	14,573,578	.....
1896 ..... pounds	115,284,579	10,434,111	.....
1897 ..... pounds	111,365,987	3,918,592	.....
1898 ..... pounds	111,661,581	.....	295,594
1899 ..... pounds	113,958,468	.....	2,296,887
1900 ..... pounds	118,223,120	.....	4,264,652
1901 ..... pounds	126,814,690	.....	8,591,570
1902 ..... pounds	137,912,085	.....	11,097,395
1903 ..... pounds	124,366,105	13,545,680	.....
1904 ..... pounds	123,935,147	431,258	.....
1905 ..... pounds	126,527,121	.....	2,591,974
1906 ..... pounds	129,410,942	.....	2,883,821
1907 ..... pounds	130,359,118	.....	948,176
1908 ..... pounds	135,330,648	.....	4,971,530

Value of the Wool Clip.

Our estimates are based on the value of the scoured pound at the seaboard, for which the last eight years has been as follows:

TABLE III.—SCOURED WOOL.

	Fleece and pulled	Total Value	Value Per Pound	
			Fleece	Pulled
	Pounds.		Cents.	Cents.
1901	126,814,690	$51,164,709	41.1	36.7
1902	137,912,085	60,679,127	45.2	39.7
1903	124,366,405	58,775,373	48.8	43.4
1904	123,935,147	64,948,959	54.1	46.7
1905	126,527,121	80,415,514	65.4	57.4
1906	129,410,942	79,721,383	63.8	54.3
1907	130,359,118	78,263,165	62.3	50.2
1908	135,330,648	61,694,616	46.6	41.6

Scoured Wool.

The total value of the wool clip, scoured, for the year, estimated on the price in Boston, October 1, was $61,694,616 for 135,330,648 pounds of wool. Last year 130,359,118 pounds were valued at $78,263,165, which indicates the losses suffered through the panic by the wool growers of the country. The average value per pound of the fleece wool was 46.6, the lowest figure touched since 1902. The same is true of the 41.6 cents paid for the scoured pound of pulled wool.

Weight and Shrinkage.

The average weight of fleece is 6.70 pounds, an increase from 6.60 pounds, in 1907. The weight for 1906 was 6.66 pounds; for 1905, 6.56 pounds; for 1904, 6.50 pounds; and for 1903, 6.25 pounds. The average shrinkage is 60.5 per cent. For 1907 the shrinkage was 60.6 per cent; for 1906, 61.8 per cent; for 1905, 61.3 per cent; for 1904, 61.6; and for 1903, 60.8 per cent.

TABLE IV.—FLEECE AND PULLED WOOL, WASHED AND IN THE GREASE.

	Product.	Decrease.	Increase.
1888 ....pounds	301,876,121	293,829	.....
1889 ....pounds	295,779,479	6,096,642	.....
1890 ....pounds	309,474,856	.....	13,699,377
1891 ....pounds	307,401,507	2,073,349	.....
1892 ....pounds	333,018,105	.....	25,606,898
1893 ....pounds	348,538,138	.....	15,519,733
1894 ....pounds	325,210,712	23,327,426	.....
1895 ....pounds	294,296,726	30,913,986	.....
1896 ....pounds	272,474,708	21,822,018	.....
1897 ....pounds	259,153,251	13,321,457	.....
1898 ....pounds	266,720,684	.....	7,567,433
1899 ....pounds	272,191,330	.....	5,470,646
1900 ....pounds	288,636,621	.....	16,445,291
1901 ....pounds	302,502,389	.....	13,865,707
1902 ....pounds	316,341,032	.....	13,838,650
1903 ....pounds	287,450,000	28,891,032	.....
1904 ....pounds	291,783,032	.....	4,333,032
1905 ....pounds	295,488,438	.....	3,705,406
1906 ....pounds	298,715,130	.....	3,426,692
1907 ....pounds	298,294,750	.....	948,176
1908 ....pounds	311,138,321	.....	12,833,571

Available Supplies, 1903—1908.

Table V. contains an estimate of the available wool supplies for the year 1908-9, that is, pending the next clip, excluding imports after October 1, and supplies in manufacturers' hands, with the figures for corresponding years given for comparison. It is based on the Boston Commercial Bulletin's record of supplies in dealers' hands on January 1, last, the Department of Commerce and Labor's figures of imports, and the figures of the preceding tables.

TABLE V.—AVAILABLE SUPPLIES.

	1903	1904	1905	1906	1907	1908
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Wool clip, fleece and pulled	287,450,000	291,783,032	295,488,438	298,915,130	298,294,750	311,138,321
Domestic wool on hand January 1	110,499,572	112,081,000	41,873,811	72,461,443	94,402,046	84,556,560
Foreign wool on hand January 1	12,372,000	15,699,000	11,562,000	21,414,000	15,169,000	15,188,506
In bond January 1	28,319,246	33,735,970	41,181,360	56,788,129	40,928,806	52,955,081
Foreign wool imported January 1 to July 1	102,025,924	102,167,315	164,730,358	119,597,637	126,600,884	64,275,513
Totals	540,666,742	555,466,317	554,835,967	572,176,339	575,395,486	528,113,975
Imports of wool, July 1 to Oct. 1	38,700,120	36,403,499	44,388,908	35,331,909	33,750,260	33,205,899
Total to Oct. 1	579,366,862	591,869,816	599,224,875	607,508,248	609,145,746	561,319,874

The Annual Wool Supply.

Table VI. shows the quantity of wool retained for consumption in the United States from 1890 to date. As the wool clip of the year reaches the market during the governmental fiscal year, the clip of any year is added to the imports of the fiscal year beginning July 1, so that the total supply for a series of years is accurately indicated by this combination, however it may differ from the available supplies in any one year of the series.

TABLE VI.—WOOL PRODUCED, IMPORTED, EXPORTED AND RETAINED FOR CONSUMPTION.

Fiscal Year	Total Imports	Exports Domestic and Foreign	Net Imports		Production	Retained for Consumption	Fine Wool	
			Classes I. and II.	Class III.			Retained for Consumption	Per Cent of Foreign
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	
1890–1	129,303,648	2,930,045	36,783,501	89,882,024	309,474,856	435,848,459	345,966,435	10.63
1891–2	148,670,652	3,210,019	53,350,167	92,312,922	307,101,507	452,562,140	360,249,218	14.81
1892–3	172,433,838	4,310,495	46,189,082	122,026,119	333,018,405	501,141,748	379,115,629	12.18
1893–4	55,152,585	6,497,654	7,167,380	42,007,798	348,538,138	397,193,069	355,185,271	2.02
1904–5	206,081,890	6,622,190	98,388,318	105,402,507	325,210,712	524,722,428	419,319,921	23.46
1895–6	230,911,473	12,972,217	126,966,355	97,918,882	294,296,756	512,235,982	414,317,100	30.64
1896–7	356,852,026	8,700,598	235,282,735	112,141,457	272,474,708	614,626,136	502,485,908	46.84
1907–8	132,795,302	2,625,971	47,480,033	82,810,437	259,153,251	389,322,582	306,512,145	15.50
1908–9	76,736,209	14,095,335	3,349,870	60,947,423	266,720,684	329,361,558	268,387,135	1.25
1899–1900	155,918,455	7,912,557	44,680,424	105,525,783	272,191 330	420,197,228	314,671,445	14.20
1900–01	103,583,505	3,790,067	32,865,844	67,127,159	288,636,621	388,430,059	321,502,465	10.10
1901–02	166,576,966	3,227,941	69,315,286	93,842,199	302,502,382	465,851,407	371,694,390	18.65
1902–03	177,137,796	3,511,914	54,747,533	119,397,268	316,341,032	489,966,914	370,569,646	14.63
1903–04	173,742,834	3,182,803	55,999,545	114,880,236	287,450,000	458,010,031	345,129,795	16.22
1904–05	249,135,746	2,561,648	134,407,321	112,292,726	291,783,032	538,357,130	426,066,402	31.54
1905–06	201,688,668	5,642,859	98,336,137	97,902,153	295,488,438	491,534,247	393,632,094	24.99
1906–07	203,847,545	3,446,748	91,726,655	108,888,982	298,715,130	499,115,927	390,226,945	23.50
1907–08	125,980,524	5,626,463	57,846,442	62,690,077	298,294,750	418,648,811	346,141,192	16.71

The proportion of the wools decreased from 23.50 per cent in 1907 to 16.71 in the year under review, just about the per cent for the year 1903-4 and somewhat below the average for the eighteen years shown in the table. The net imports of Classes I. and II. are less by 33,880,213 pounds than last year and 76,560,879 pounds less than two years ago. The imports of Class III. are less by 56,198,905 pounds than the same imports of last year, and less than in any of the years in the table except 1903-4 and 1908-9. The exports and re-exports, as a rule always small, are 2,179,715 pounds more than last year.

The following table, computed from Table VI., shows the total supplies for five-year periods, beginning in 1888, the ten years 1893-1902, the five-year period, 1903-1907, and the year 1908:

TABLE VII.—WOOL SUPPLY, 1888-1908—DOMESTIC PRODUCTION, AND IMPORTS LESS EXPORTS.

Fiscal years ending June 30.	All wool.	Fine wools.
	Pounds.	Pounds.
1888–1892—Five years, total	2,122,407,842	1,686,818,840
Annual average	424,481,568	337,363,768
1893–1897. Five years, total	2,549,920,592	2,070,423,829
Annual average	509,984,118	414,084,766
1898–1902. Five years, total	1,988,771,621	1,582,374,537
Annual average	397,755,324	316,474,907
1893–1902. Ten years, total	4,538,692,213	3,652,798,366
Annual average	453,869,221	365,279,837
1903–1907. Five years, total	2,476,984,249	1,925,618,882
Annual average. Five years	495,396,850	385,123,776
1908	418,648,811	346,141,192

Slaughter and Movement of Sheep.

The total number of sheep killed yearly at four western centers, Chicago, Kansas City, St. Louis, and Omaha, and total yearly receipts of sheep at eastern seabord markets, Boston, New York, Philadelphia and Baltimore, are reported in the "Cincinnati Price Current Annual," as follows:

TABLE VIII.—SEABOARD SHEEP RECEIPTS AND SLAUGHTER AT PRINCIPAL WESTERN POINTS.

	Western Killings.	Seaboard Receipts
1887	1,173,000	3,432,000
1888	1,275,000	3,453,000
1889	1,476,000	3,305,000
1890	1,622,000	3,274,000
1891	1,879,000	3,375,000
1892	2,112,000	3,394,000
1893	3,278,000	3,330,000
1894	3,565,000	4,079,000
1895	3,995,000	4,265,000
1896	4,299,000	3,611,000
1897	4,654,000	3,141,000
1898	4,647,000	2,988,000
1899	5,019,000	2,945,000
1900	4,798,000	3,093,000
1901	5,276,000	3,400,000
1902	5,832,000	3,443,000
1903	5,827,000	3,314,000
1904	5,465,000	3,128,000
1905	5,879,000	2,425,000
1906	6,117,000	2,606,000
1907	5,701,000	2,956,431

The seaboard receipts were 350,431 larger and the western killings were 416,000 smaller than those of last year, the total of 5,701,000 being 123,000 less than the average for the five preceding years.

In the past twenty years the western killings at the four centers and the seaboard receipts have increased from 4,605,000 to 8,657,000, the increase of 4,052,000 lacking only 553,000 of the total in 1887.

London Sales.

The sixth of the London sales of Colonial wool for 1907 began November 26 and closed December 10. The net amount available was 127,000 bales, of which 113,000 were sold, leaving 14,000 to be carried over into this year. The distribution was as follows:

Home consumption	55,000 bales.
Continent	56,000 "
America	2,000 "

The net imports amounted to 860,000 bales, and as there were 14,000 bales held over from last year, the total available supply was 874,000 bales.

The total sales were 836,000 bales distributed as follows: To England, 459,000 bales; the Continent, 343,000 bales; to America, 78,000 bales, and 38,000 bales were held over for the next series, which began November 24, the entries closing November 16. It is estimated that the total quantity available will be from 170,000 to 180,000 bales.

Notwithstanding bad times in wool manufacture, the total bales sold were only 83,000 fewer than in the previous season, England's purchase being 43,000 bales heavier than in 1907, while America's purchases were reduced some 68,000 bales or almost by half.

In treating of the Australasian season Buxton, Ronald & Co. in their annual report, issued under date of October 31, say:

Nothing could have been brighter or more cheering than the report of the trade which we were able to furnish in October last. All conditions appeared to be favorable, for the sun of prosperity, which had encouraged wool growers for several years, gave no sign that it was passing its zenith, and that the wool trade would soon be laboring heavily under a cloud of depression, and this and other countries pass through one of the severest periods of trade prostration in their history. What was a noticeable decline in values at the sales in December became depressing weakness in the New Year, until about Easter time a level of prices was realized which called to mind the dark days of 1901.

In speaking of the hoped-for recovery in the trade the report continues: Some would think that the depression is more or less ephemeral in character, and look for recuperation and revival soon, but whilst that is heartily to be wished, it is an idea more or less contrary to the whole bearing of the situation. The decline has been too severe, and the liquidation too drastic for the effects of this world crisis to be got rid of in a short period. Having regard to existing want of confidence and to the fair stocks of wool on which users can draw, time alone can determine what the state of markets will be when the chances and uncertaintities of the coming season are con-

fronted with actual results. It must of necessity take time to re-establish any upward movement, or to create any inquiry for woolen goods which will be calculated to effectively influence markets favorably.

The following statement shows how much lower London prices were this year than last for the various descriptions:

Merinos .....22 1-2 per cent.
Crossbreds, fine qualities.....25 per cent.
Crossbreds, medium.....35 per cent.
Crossbreds, coarse .....40 per cent.

TABLE IX.—AUSTRALASIAN WOOL PRODUCTION.

Compiled from Customs Returns.

	Seasons of				
	1907-8	1906-7	1905-6	1904-5	1903-4
	Bales.	Bales.	Bales.	Bales.	Bales.
New South Wales.....	856,407	956,630	816,000	660,000	510,000
Victoria	300,390	301,000	267,500	238,000	225,000
Queensland	234,709	204,000	176,000	99,000	115,000
South Australia.....	143,274	126,000	119,000	157,000	87,000
Western Australia.....	52,500	42,000	42,500	35,000	32,000
Tasmania	33,610	33,500	33,500	30,000	26,000
New Zealand.....	436,941	427,058	415,000	377,000	372,000
Total	2,057,831	2,090,188	1,869,500	1,596,000	1,367,000

"Dalgety's Annual Review" speaks of the clip of 1907-8 as follows:

It is almost impossible to generalize when dealing with a clip gathered from a continent the size of Australia, 2,974,581 square miles, five-thirteenths of the area being in the tropical and the balance in the temperate zone.

The chief characteristics, however, of the Australian clip of the past season were undoubtedly its shortness of staple and large proportion of tender wool, whilst burr and seed were more evident than during the immediately preceding seasons. The main contributing cause towards shortness of staple was of course the late shearing of 1906, on account of unfavorable climatic conditions for that work, and the exceptionally dry spring of 1907, and high prices then current for the staple, leading to an early commencement of the last shearing.

Moreover, the season in many districts promised so badly that owners made a specially early start in order that they might remove their sheep to more favored localities before it became too late.

The causes referred to, viz., the late shearing of 1906 and the early shearing of 1907 resulted in perhaps half of the sheep being shorn when the wool upon them was of but ten to eleven months' growth, which accounted for the shortness of the staple, whilst the unfavorable season experienced during autumn, winter and spring over the heaviest wool-producing districts, coming on top of a period of over-abundance of feed, gave a large output of tender and burry fleece.

The quality of the clip varied according to districts and the bulk of the wool was of finer quality than has been seen in recent years. A certain quantity, however, must be classified as "hunger-fine," generally accompanied

by lack of body, and further depreciated by dust and weakness. Though on the average lighter in yolk and moisture than the preceding clip, the yield of clean scoured wool to the buyer turned out to be very disappointing; while if the actual quantity of top could be ascertained it would be found that the falling off in output of the semi-manufactured product as compared with that in the preceding year would be enormous, for the past clip has, for reasons already mentioned, given a poor percentage of top to noil. The noils were in many cases so heavily infested with vegetable defects as to account to a certain extent for the poor weight of tops produced.

The main features of the wool year were thus summarized: The American financial crisis; depreciation in wool values; slump in prices for medium and coarse quality crossbred wools, and record prices obtained for really superior fine quality sorts.

During the season 2,057,831 bales were exported from Australasia, only 32,357 fewer bales than were sent abroad the previous season. The value of the wool sold in the home markets averaged £13 2d. per bale, as compared with £14 3s 11d. last year.

Respecting the future the report says that the coming clip will show a decrease and defects similar to those noticeable during the past season, viz., shortness and weakness of staple and vegetable matter.

WOOL EXPORT FROM AUSTRALASIA.

	Seasons of				
	1907-8	1906-7	1905-6	1904-5	1903-4
	Bales.	Bales.	Bales.	Bales.	Bales.
New South Wales	777,748	837,869	741,194	597,174	479,085
Victoria	462,815	506,650	431,406	381,016	314,218
Queensland	144,640	117,550	102,045	89,374	57,732
South Australia	163,892	146,431	124,472	108,838	98,484
West Australia	50,745	40,789	42,455	35,018	32,567
Tasmania	21,050	13,841	13,248	7,549	12,710
New Zealand	436,941	427,058	414,635	376,765	372,146
Total	2,057,831	2,090,188	1,869,455	1,595,734	1,366,942

This year for the first time the exports of wool are given in pounds as well as bales, it having been asserted for some years that flockmasters were constantly making their bales smaller and smaller by putting less and less wool into a bale. According to Dalgety the 2,090,188 bales produced in 1906-7 averaged 339.7 pounds to the bale, making a total of 710,168,448 pounds, whereas the 2,057,831 bales of 1907-8 made a total of 686,810,010 pounds, or an average per bale of 333.7 pounds, a decrease of 23,350,438 pounds, or 69,975 bales of an average weight of 333.7 pounds per bale. In addition, the past season's clip did not yield, after scouring nearly so good a percentage as the clip of 1906-7, so that putting the smaller yield at 3 per cent it is estimated that the yield in 1907-8 of clean scoured wool was 31,500,000 pounds less than during the previous twelve months. The following table shows the average weight of an Australian bale of wool during the last ten seasons:

	Greasy	Scoured
	Pounds.	Pounds.
1898-99	358	248
1899-00	365	258
1900-01	369	240
1901-02	368	244
1902-03	348	238
1903-04	361	243
1904-05	353	247
1905-06	360	238
1906-07	356	243
1907-08	350	239

Owing to the improvement in flocks and the increased proportion of crossbred wool, the number of fleeces necessary to make a bale has been steadily falling for the past ten or eleven years At the same time the number of bales produced by a thousand sheep has been increasing.

	No. of Fleeces Per Bale	No. of Bales Per 1,000 Sheep
1896-97	59.65	16.75
1897-98	60.08	16.64
1898-99	59.62	16.76
1899-00	57.95	17.25
1900-01	55.88	17.89
1901-02	55.42	18.04
1902-03	51.36	19.46
1903-04	55.51	17.99
1904-05	52.70	18.97
1905-06	50.27	19.89
1906-07	49.65	20.13
1907-08	52.90	18.90

Australian Sheep.

The following table shows the number of sheep in Australasia for the past five years:

TABLE X.—NUMBER OF SHEEP AT CLO SE OF YEAR IN AUSTRALASIA, 1903–1907.

	1907	1906	1905	1904	1903
New South Wales	44,555,879	44,132,421	39,494,207	34,531,145	28,663,983
Victoria	14,146,734	12,937,440	11,455,115	10,167,691	10,500,000
Queensland	16,738,050	14,886,428	12,535,231	10,843,470	8,392,044
South Australia	7,023,000	6,700,000	6,524,300	5,298,720	5,000,000
West Australia	3,694,852	3,200,000	3,140,360	2,600,633	2,554,920
Tasmania	1,729,394	1,583,560	1,556,460	1,597,053	1,700,000
Australia and Tasmania	87,887,909	83,439,859	74,705,673	65,038,712	56,810,947
New Zealand	20,983,772	20,108,471	19,130,875	18,280,805	18,954,500
Total	108,871,681	103,548,330	93,836,548	83,319,517	75,765,447

The flocks, notwithstanding the innumerable rabbits, which are said to consume 40 per cent of the available food, causing heavy losses of sheep in years of drought; the continued subdivision of large estates for closer settlement and more than 17,000,000 sheep slaughtered in Australasia during the year, show an increase of 5,075,555 as compared with an increase of 9,701,702 the previous season.

IMPORTS INTO UNITED STATES OF ARGENTINE WOOLS FOR YEARS 1904–1908 INCLUSIVE, IN POUNDS.

Year	Class I.	Class II.	Class III.	Total
1904	18,018,443	100,548	10,049,069	28,168,060
1905	41,094,617	362,562	6,238,388	47,695,567
1906	36,352,480	.....	5,815,447	42,167,927
1907	19,247,683	94,866	3,852,659	23,195,208
1908	14,311,498	.....	1,909,787	16,221,285

The increase in the importations of Argentine wools, which was manifest in the three years preceding 1906, received a check in 1907. This year there is a further decrease in the Argentine wools in all classes, the falling off in Class I. wools being very marked, bringing the total of 14,311,498 pounds below the figures of 1904. In 1908 no wools of Class II. were imported, while in 1907 94,866 pounds came into the country. The imports of Class III. wools in 1908 show a falling off of 1,942,872 pounds, and were less than one-fifth the amount imported in 1904.

. Wenz & Co., under date of May, write concerning the Argentine clip, flocks and season as follows:

The winter was favorable and lambing took place under good conditions, but the clip was delayed by rain and night frosts. The new wool was on the whole lighter and cleaner than last year, but bright southern wools were frequently short and tender. . . . The financial crisis early in November caused prices to decline especially for lower grades. . . . The season progressing but slowly, it was the middle of December before the first quarter of the clip wash sold and the middle of April before three-fourths were disposed of. . . . In the Province of Buenos Ayres, where agriculture is spreading with the railways, finer wools are now very scarce, the bulk of the clip being composed of low grades. . . . Crossbreds realized Buenos Ayres rates, but went off slowly as owners held on in vain hopes of improvement, having paid very high prices up country.

Since the beginning of the year the whole country has been suffering from drought, especially in the South. A few weeks ago the pastures were still very parched and the prospects for the winter were bad. Since then the reports are rather better and it is to be hoped that sheep, which suffer less than cattle, will get through all right.

The Course of Prices.

The prices in 1908 for fine Delaine wools were much better maintained than for the medium wools, the decrease in the prices for the former averaging about three cents a pound, while for the latter the drop was six cents or double that of the other descriptions. These changes and the course of the market are shown in Table XI.

Boston Receipts and Shipments of Wool.

Table XII. shows the annual receipts of domestic and foreign wool in Boston by months for the years 1900 to 1908, inclusive.

The receipts of domestic wool in Boston up to November 1 were 612,784 bales as compared with 606,572 bales in 1907. While the domestic receipts show an increase in excess of 6,000 bales, the receipts of foreign wool are

almost 91,000 bales below those of the corresponding months of 1907. The domestic receipts, if they are maintained for the remaining two months of the year, bid fair to exceed those of any year except 1902. The shipments from Boston for the ten months of the current year were 152,563,810 pounds as compared with 210,976,207 pounds in the corresponding months of 1907.

TABLE XI.—COMPARATIVE PRICES OF DOMESTIC WOOL IN BOSTON, OCTOBER, 1894–1908.

	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	
Ohio, Pennsylvania and West Virginia. (Washed.)																
XX and above	19	19	19	29½	29½	31½	28½	26½	28½	34	35	36½	34	34	33	*
Medium	20½	22	19½	30½	30	34½	28½	26	29	32	36	41½	40	40	34	
Fine Delaine	21	20½	19½	30½	29½	34½	28½	28	31½	36	36	37½	36	38½	35	
(Unwashed.)																
Fine	14	13½	13½	21	19½	22½	18½	19½	21½	23½	24	27	26	27	23	
Medium	18	18½	15½	23	22½	25	23½	20	23	25	30	34½	33	33	26	
Fine Delaine	15	15	14	21	21½	24½	21½	21	24	26	27	30	28	31	28	
Michigan, Wisconsin, New York, etc. (Washed.)																
Fine	17	16½	15½	24	22½	25½	22½	20½	24	27½	27½	31*	30*	30*	28	*
Medium	21	21	18½	29	27½	32	27½	24½	27	31	33	40	39	39	33	
Fine Delaine	19	18½	18½	27	27½	31½	25½	24½	29	34	34	36	34	37	34	
(Unwashed.																
Fine	12½	11½	11½	18½	17½	20	16½	17	19	21½	22	25	24	25½	22	
Medium	17½	18	15	22	22	22½	22½	19½	21½	24	29	33	32	32	25	
Fine Delaine	15	14	13	19½	19½	22½	18½	19	22	23½	25	28	26	29	26	
Kentucky and Indiana (Unwashed.)																
Medium	16½	18½	16	23	22½	22½	24½	21	22½	24½	30	35	33	31	25	
Missouri, Iowa and Illinois. (Unwashed.)																
Medium	17	17½	15	22	21½	22	22½	19½	21½	23½	29	34	32	30	24	
Texas. (Scoured basis.)																
Spring fine, 12 mo.	33	32	31	46	44	49	50	44	52½	52½	62	75	70	71	55	
Fall, fine	30	28	27	43	41½	44	41	37	45	42½	52	62	58	58	45	
California. (Scoured basis.)																
Spring, Northern, free, 12 mos.	35	33½	31	46	44	49	49	43½	50	52	62	74	70	68	50	
Fall, free	29	28	27	42½	41	44	41	38½	43	42½	53	62	60	58	40	
Territory Wool, including Montana, Wyoming, Utah, Idaho, Oregon, etc. (Scoured basis.)																
Staple fine	35	34	33	50	47½	55	51	46	55	55	65	76	71	73	60	
Staple medium	33	32	30	48	45	50	48	44	50	51	60	70	66	68	52	
Clothing, fine	34	32	31	48	45	50	48	43	48	50	60	72	68	65	53	
Clothing, medium	31	30	27½	45	44	48	47½	40	45	46	55	68	63	60	45	

* Nominal.

TABLE XII.—WOOL IMPORTED INTO BOSTON, NEW YORK, AND PHILADELPHIA, BY PRINCIPAL COUNTRIES OF PRODUCTION.

Year Ending June 30	Russia	Turkey	United Kingdom	Argentina	Uruguay	Chinese Empire	British E. Indies	British Australasia	All Other Countries	Total
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
1896	13,150,509	17,978,753	14,229,068	32,281,341	9,048,350	26,084,232	9,897,531	72,995,090	30,264,448	225,938,322
1897	19,706,449	20,239,717	27,759,419	64,969,556	15,004,257	21,461,478	10,989,980	109,912,851	42,451,335	332,495,042
1898	16,999,224	9,282,762	12,434,332	16,734,279	1,309,974	20,369,294	6,445,063	31,877,252	14,630,832	130,083,012
1899	13,373,350	5,697,377	9,156,624	7,957,657	149,573	14,276,124	6,949,491	7,249,740	10,688,700	75,498,636
1900	18,869,252	9,577,147	20,393,063	20,064,279	1,072,307	30,998,289	9,397,020	23,121,394	19,171,121	152,663,872
1901	13,720,814	8,355,941	16,919,793	14,358,218	783,075	9,181,105	4,146,698	22,570,030	11,482,847	101,518,521
1902	16,322,231	12,215,316	21,737,509	45,287,370	533,634	18,843,396	6,813,401	26,559,531	13,930,722	162,243,110
1903	19,455,392	15,410,933	31,778,842	23,265,309	541,384	26,032,976	11,850,446	25,238,498	18,390,678	171,994,458
1904	23,403,797	17,742,473	26,807,042	28,168,060	112,208	24,912,491	10,088,556	25,792,098	13,374,315	170,401,040
1905	23,790,451	23,454,937	25,213,450	47,695,567	7,740,309	30,023,157	12,202,135	56,212,733	16,460,214	242,792,953
1906	21,180,755	16,032,199	21,615,963	42,167,927	5,807,190	30,233,762	6,011,319	39,548,551	11,242,388	193,840,054
1907	21,231,378	15,710,735	14,863,620	23,195,208	5,856,611	39,762,115	8,697,581	52,538,582	12,338,352	194,194,182
1908	12,913,964	10,686,993	15,747,766	16,221,285	1,604,221	21,717,431	4,936,421	27,032,576	7,438,644	118,298,301

NOTE.—These figures represent about 98.5 per cent of the total quantity of wool imported into all ports of the United States.

MONTANA WOOL GROWERS' COM'N CO.

Up to the fall of 1906, although Montana was the largest wool producing state in the Union, no aggressive or concerted movement had been made to unite the wool growers of the State for the purpose of fixing a price for their product, or of securing a fair price as fixed upon eastern markets. Buyers were in the habit of coming to the Montana ranges and after having formed themselves into a clique, with an understanding as to maximum prices, going among the sheepmen who, being without organization, were either obliged to accept their offers or consign their clips to the houses which these buyers represented.

In October, 1906, a few of the larger growers called a meeting at Helena, securing the attendance of as large a body of the sheep growers of the State as was possible and formed themselves into the Montana Wool Growers' Commission Company. A corporation was formed under the laws of Montana, those present subscribing for stock in the company on a basis of ten cents a head on their holdings. One-tenth of this amount, or one cent per head, was called, the balance being held subject to call when needed. An active canvass was made to make the movement and membership as comprehensive and representative as possible, and a very generous response was met.

At present there are 186 stockholders in the company including nearly all the large individual and corporate growers. An office is maintained at Helena, the active conduct of affairs being carried on by Messrs. John T. Murphy, President, and Lewis Penwell, Secretary, with a board of thirteen directors as an advisory body.

The affairs of the company have been wisely and economically administered so that no further call than the one cent per head of sheep owned by the stockholders has been made. The association has been almost self-supporting, nearly all the original money called having been invested in interest-bearing paper. In addition, arrangements have been made whereby all the money needed by members has been advanced by the company on the 1908 clips.

That the organization has been of immeasurable benefit to the wool growers there can be no doubt. During its first year the company sold no wool but the fact of its existence was well known by the wool buyers who came to the State, and without clique or quibble they paid the top prices for our product.

During the year just past the association employed one of the best known and most highly qualified of Boston brokers, Mr. F. R. Peters, and on account of the low prices for wool, made ready for an active campaign as a wool selling organization. Buyers were already abroad in the states

of Colorado, New Mexico, Utah, Wyoming and Oregon, securing wool for from 10 to 15 cents per pound, and it was freely predicted that no wool would go out of the State at a greater figure.

Montana, however, was fortified by the existence of two conditions. Her wool was of the long staple variety, necessary to the operation of the worsted producing mills; her growers were firmly organized, prepared through their own company to advance money where needed, and to market their clips through their own agent in the seaboard markets. The result was a logical and inescapable one. The buyers with their offers of 12 and 15 cents met with prompt refusals and what wool was sold direct brought from 16 to 18½ cents per pound. Many growers refused to sell and the company handled something over 2,000,000 pounds, advancing 10 cents per pound whenever it was requested. Of this amount about 336,000 pounds has been sold by Mr. Peters, the balance being held in Boston.

Montana is, in the existence of this company, far advanced beyond any of the wool growing states. Its advantage has been not so much in the volume of business handled as in the influence, indirect and subtle, but insistently potent, upon the price of the wool clip of the State. Much credit is due to the men of large affairs and far-sighted business judgment who made of the company a dynamic force in their State's great industry.

Organization is the order of the day and that the flockmasters of the western states are alive at last to the fact is evidenced by the recent movement in the states of Wyoming, Utah, Oregon and Montana, in conjunction with the Association of Commerce of Chicago, to establish a wool warehouse in that city with an initial capacity of 25,000,000 pounds. If this can be accomplished a market will be created and established in the middle west and the movement inaugurated in this State will have assumed inter-state proportions. Pending the perfecting of this or some similar arrangement, Montana has her own state wool selling company which, with the long-staple quality of her wool, assures her of the best prices to be obtained.

LABOR.

EMPLOYMENT ABUSES.

The years 1907 and 1908 will long be memorable for the immense amount of construction work undertaken on railroads, irrigation works and power plants. These necessitated the importation of many thousands of laborers who were brought in mainly through the efforts of employment agents in other states. Complaints of ill-treatment and misrepresentation have always been heard from workmen sent to Montana through these agencies, but never have they been so numerous and so apparently well founded as during the period under consideration. It is extremely difficult to suggest even an approximate remedy for the undoubted evils which have attached themselves to the business of assembling and maintaining an efficient corps of several several thousand laborers on works of this magnitude and character.

If it were possible to abolish all private employment agencies in the United States, substituting therefor public agencies in direct control of the various states through their State Labor Bureaus, many improvements would doubtless be noted. The State Commissioners being familiar with local conditions, could easily and quickly advise all others, and both the departure and arrival of those employed might be officially supervised. However, there seems to be little hope for so rational a solution of this vexatious problem. In the meantime, the most woeful conditions prevail among these employees.

It is admitted by the Bureau that there are many men who take advantage of the free transportation given by the companies to make the trip without any intention of accepting employment at their destination, and that there are many who are unwilling to continue at work after a week or so. This might not be remedied by the establishment of public employment agencies, but it certainly would not be any worse than at present. Granting that the companies have a valid cause of complaint upon the grounds stated, and that they are entitled to adequate protection against loss on transportation, it is monstrous to imagine that they have an inherent right in the services of their employees. These must be left as free to quit their employment as they are to accept it.

From observation and careful investigation no hesitancy whatever is felt in making the statement that the vile conditions under which these employees are compelled to live, cause at least 90 per cent of the desertions from the front, misrepresentations of wages and other conditions by agents accounting for a large part of the remaining 10 per cent of loss. The principal complaints are upon these points, viz: Sanitation, food and violation of contract. Generally speaking, the sanitary condition of construction camps is very bad; little, if any, attention is paid to the most common requirements, until

an epidemic of disease forces heroic measures. Fearful proof of this is found in one instance of cases of typhoid among employees at one camp, and 26 cases out of 65 employees at another. Many sleeping quarters are unspeakably filthy, cooking and eating accommodations are of such a nature that they are simply disgusting.

To the casual visitor, the great wonder is that men will stay at all under such conditions. A strict law, with proper appropriation for its enforcement and authority to compel compliance with its provisions, is sadly needed. The essential point in such legislation is authority. It is useless to pass any law of this character unless some person is fully authorized to enforce the abatement of nuisances, to order the adoption of preventive measures and to see that his orders are executed.

Regarding the violation of contract a whole volume could be written. The chief offenders are, of course, the employment agents; concerned wholly with the financial end of the contract, they will, as may be proved by tickets issued to laborers and exhibited at this office, apparently promise anything, without any regard as to conditions at the front. Wages, hours, character of the work and price of board are all misrepresented. Men are sent out by trainloads when there is no work at all for them upon arrival. The great difficulty here is that the crime against these men is usually committed outside of Montana in the state where the agent is located. The men are penniless, hundreds of miles away from the courts in which they must seek redress. They apply to the Bureau of Labor in numbers for advice and relief, but there is little that can be done. The laws under which the Bureau is conducted offer no assistance in solving such problems as these. The Commissioner is absolutely powerless to interfere except as he can appeal to the tender mercies of the contractor, unofficially. Again, it is difficult to suggest a remedy. Perhaps a law defining the specific terms of a legal labor contract might be of use, but as the contract is made outside the State, in most cases of this character it would only be of benefit in a small number of instances. There is no doubt that a law fully defining the rights of employees and covering the payment and collection of wages would correct many abuses, especially if the Commissioner of this Bureau was given authority to take official action for the men.

In cases involving the collection of wages, of which there are a great many, the chief difficulty arises from the fact that the men are entirely without money or means of subsistence during the time necessary to invoke the assistance of the courts in their behalf. Under common law wages are due and payable when, for any cause, employment ceases; but wages are withheld with and without excuses or reasons. In one instance the reason given was that a regular payday had been established. This was entirely lawful, but as the fact was not made a part of the original labor contract immediate payment of the wages was insisted on and duly made forthwith. Under existing laws any employer may fix a certain day upon which wages are to be paid and compel employees to wait until that day for their wages, unless previously discharged, but knowledge of the day and rule so fixed must be made a part of the labor contract, giving the employee full option to refuse to accept work

upon the terms prescribed; otherwise he is condemned to practical slavery.

To remedy, in some degree at least, the injustices herein complained of, the following laws are most respectfully called to the attention of the present Legislative Assembly with an earnest hope that they will meet with the consideration which their importance demands. The first of these relates to the payment of wages and is a copy of the laws now in force in Arizona:

"Section 1. All corporations and individuals employing men shall pay wages due their employees at least once a month, in lawful money of the United States of America, or bank check of even date.

"Section 2. Whenever an employee quits the service, or is discharged therefrom, such employee shall be paid whatever wages are due him, in lawful money of the United States of America, or by bank check of even date, and said wages shall be paid at once.

"Section 3. Whenever any employer fails to pay any employee as provided in this act, then a penalty shall attach to such employer, and become due to such employees as follows: A sum equivalent to twenty-five per cent of the wages due and not paid, as herein provided, as liquidated damages, and such penalty shall attach and suit may be brought in any court of competent jurisdiction to recover same and wages due."

To enforce sanitary conditions in construction and other camps, the following law is recommended:

"Section 1. Every agent of a firm or corporation, and every other person who shall maintain or have charge of any structure used as a boarding house or place of abode for laborers employed by such person, firm or corporation, shall within seventy-two hours after such structure or abode has been occupied for such purpose or purposes, notify the health officer of the county in which such structure of abode is maintained. Such health officer, within five days thereafter shall inspect such permises, and may forbid the use of the same altogether, or make such other orders as he may deem necessary to protect the health of the inmates."

Severe penalties should be provided for violation of such laws as these, not with the expectation of mulcting the employers, but simply to insure their being obeyed.

THE FIVE-YEAR AGREEMENT.

Unsettled conditions in the mining industry of Butte in the spring of 1907 led to the adoption of a mutual agreement between the Amalgamated Copper Company and its employees throughout the State which apparently will prove of great benefit to the entire commonwealth. A proposition for a sliding scale of wages based upon the average monthly price of copper was submitted to the men which, after full discussion, was adopted. Copper at the time was selling around twenty-five cents a pound, and there was a general feeling amongst the men that an advance in wages should be asked for. The acceptance of the sliding scale was, without doubt, instrumental in averting a serious labor difficulty.

Perhaps the most potent objection offered was the disturbance of the $3.50 a day scale which had been maintained by the Butte Miners' Union

for more than a quarter of a century. Some argued that by accepting an increase based upon the high price of copper, the old union scale would be placed in jeopardy if copper should fall to a relatively low price. In other words, the company would be justified in asking for a $3 a day rate if copper fell to ten cents or lower. This objection was fully met in the agreement when the Company recognized the Union's constitution fixing $3.50 as the minimum scale for underground men. Briefly the proposition was that so long as copper remained at or above eighteen cents a pound wages of shaft men and station tenders should be $4.50, and for all other underground men $4 for an eight-hour day. Should copper fall below that price wages would also drop 50 cents a day. For mill and smelter men the wages in Butte, Anaconda and Great Falls were increased 25 cents a day, continuing during the high price of the metal, with full recognition of the union. The agreement was for a term of five years dating from April 1, 1907. The detailed vote follows: Butte Miners' Union, 2,262 "Yes," 368 "No." Butte Mill and Smeltermen, 222 "Yes," 136 "No." Great Falls Mill and Smeltermen, 378 "Yes," 208 "No." Anaconda Mill and Smeltermen, 304 "Yes," 218 "No," making 3,166 "Yes" and 930 "No," a total of perhaps one-third of the men actually affected. The increased wages were paid until early in 1908, although the price of copper had fallen below 18 cents long before. The reduction was readily accepted by the men upon notification by the company, without even taking a vote, and there is absolutely no question but that the higher scale will be restored as readily, should copper touch 18 cents during the life of the agreement.

THE DRUG CLERKS' STRIKE.

The wage scale of the drug clerks at Butte had formerly been $100 a month. A demand was made upon employers for an increase to $125 a month to become effective June 1, 1907. The Butte Drug Association, which is made up of employers, refused the demand and a strike occurred among the employees of the principal drug stores of the city. At a special meeting of the Drug Association, held that afternoon, it was decided to lock out all members of the Clerks' Union in the stores—three in number—which were theretofore and then paying $125 a month to their clerks. This action on the part of the employers resulted in the closing of every drug store in the city, it apparently being the policy of the Association to create an adverse sentiment to the strike.

The Butte Clerks' Protective Union (the drug clerks being members of that body) promptly voted $3,000 for the immediate purchase of a drug store and the executive board opened negotiations with a concern with this purpose in view.

At the instance of the Drug Association a conference was held at which they expressed a desire to arbitrate but wanted the Merchants' Association of the city to act as the board of arbitration. This the clerks refused because the Merchants' Association is made up entirely of employers, but made a counter proposition that they were willing to name one member of a board of arbitration, the Drug Association to name another, the Mayor

of the city to act as the third or he to name a third, and insisted that the conference was to be held in some public hall where the press and public should be invited to hear the case. This the Association refused and the conference adjourned without results.

The next night the Merchants' Association asked for a conference in the hope of effecting a settlement on behalf of the employers. This conference lasted most of the night and adjourned without results. Then on the morning of the fifth day of the strike it was announced that the Drug Association had placed the entire matter in the hands of the late D. J. Hennessy, president of the Merchants' Association, with full power to act. A basis of agreement was arrived at between the business agent of the Clerks' Union and Mr. Hennessy whereby the drug clerks were to receive $28 a week, payable every Saturday night, all other conditions to remain as before the strike and all men to return to their former places. This action was ratified by all parties and through the efforts of several other conferences between the Clerks' Union and the Merchants' Association all other clerks in the city were raised as follows: Men were to receive $80 to $91 a month; women, $50 to $58.50 a month, and an understanding was had upon the question of overtime and regulations as to apprentices employed in all commercial houses.

Since this settlement apparently entirely friendly relations have existed between employers and clerks in all lines of business at Butte with excellent prospects for a long continuation. In sanction and commemoration of the above agreement it was decided by all concerned to set aside the third Wednesday in August of each year as a day of celebration to be known as Commercial Day.

THE PRINTERS' STRIKE.

This difficulty began February 13, 1907, and lasted until March 29. During this time not a newspaper in Butte printed even a single issue. The local Printing Pressmen's Union had fixed upon the thirteenth as the date for the adoption of a new scale of wages, involving an advance of one dollar for night work and fifty cents a day for day work. The publishers considered this advance unreasonable, and refused to concede it, whereupon the pressmen walked out, closing down all the papers in Butte and one in Anaconda.

Some two weeks before the pressmen struck the Stereotypers' Union had secured an advance of wages, the same being paid under protest, while about ten months previously the printers had also been granted an advance. When the shutdown came the publishers mutually agreed not to resume until all these scales had been readjusted and a long term agreement with the various unions signed.

THE LUMBERMEN'S STRIKE.

By reason of the fact that the product of the lumber mills is used so extensively in the Butte mines, the advance in the miners' wages contingent on the high price of copper, together with large advances in prices of lumber, an increase in the wages of the lumbermen in certain parts of the State was granted by the 1907 scale. A proposition to return to the old wages was not

accepted by the men, and the operators refused to renew the existing scale. This occasioned more or less trouble, which finally culminated in a general strike, aggravated by a jurisdictional fight between two state unions for control of the camps.

One of the local unions had accepted the reduction and signed the agreement for a year, but many of the other mills were closed and logging operations were suspended. Continuation of the strike was finally made contingent upon the result of a vote of support by the Butte Miners' Union, which had apparently been promised by organizers and officials to the local unions of lumbermen. The vote being adverse by a large majority, the strike collapsed.

The jurisdictional question raised in this difficulty between the State Federation of Labor and the State Miners' Union, bids fair to be settled by the advent of the International Lumbermen's Union, to which a large number of the local unions have already gone. If this should prove the case it will be a matter of great satisfaction to all concerned, as the industry has long been in an unsettled condition.

THE SIXTEEN-HOUR LAW.

The State law providing that those employed in operating locomotives or railroad trains in this State shall not be required to work more than sixteen consecutive hours in twenty-four, and applying also to operators and agents acting as such, became effective on February 5, 1907. On March 4, 1907, a Federal statute covering the same matters was passed, with the proviso that it would not take effect for one year from its passage. Two violations, one at Livingston and one at Helena, were charged against the Northern Pacific Railway and fines were levied upon the defendant. The cases were taken to the Supreme Court upon demurrer, the railroad claiming that as Congress had passed a law regulating the hours of certain employees to take effect at a certain time, the state had no right to pass a law to take effect before the time specified. The Supreme Court held that this position was untenable in that there was really no Federal law covering the subject until March 1, 1908, and that the State law could and did cover the case until the Federal law actually went into effect. At present the State law covers railways operating wholly within the boundaries of the State, while the Federal law covers the transcontinental lines.

Under the provisions of the same act the hours of operators are fixed at nine a day. This necessitated the employment of many new men as, in those offices which remain open, three eight-hour shifts are now at work.

THE EIGHT-HOUR LAW.

By a decision of the Supreme Court, Montana's Eight-Hour Law has been declared valid, and it is now thought to be universally observed. The case upon which the decision was brought to the highest court from the District Court at Livingston. A local building and concrete company, laying cement sidewalks for the city, was charged with working men more than eight hours and the district judge declared the law unconstitutional, sustaining the demurrer to the information. This decision the higher court reversed, declaring the law a valid legislative enactment and capable of being enforced.

But one other case involving this statute has been instituted. An information was filed in a Silver Bow county justice court charging certain contractors on the Milwaukee railroad with working men more than eight hours in an underground tunnel. The case was dismissed after a jury had been secured, upon the failure of prosecuting witnesses to present themselves in court. The question here raised is a very important one and it is much to be regretted that a decision could not have been had at that time.

EMPLOYERS' LIABILITY.

Interest in the matter of employers liability for injuries to workmen in the discharge of their duties, has been greatly stimulated by the adoption in Congress of a bill conferring certain rights in cases of this character upon a limited number of government employees. The original law was declared unconstitutional by the Supreme Court, but at a later session of Congress an amended bill became a law, and is now in force.

Montana legislatures have struggled with this problem for many years and the laws now upon the statute books of this State are believed to be fully equal to the very best. The common law court construction of the fellow servant doctrine is definitely superceded, and the difference in grades of employment fully recognized. To this extent Montana's statutes leave little to be desired. There is, however, another and very important side to this problem, which is even now pressing for recognition and solution. This is the law of compensation for accidents to workmen through industrial, or what is sometimes called compulsory insurance. The vast importance of this subject warrants its full discussion here and elsewhere. It is not entirely an old world plan, paternalistic or visionary. Its innate justice should appeal to every humanitarian. Its applicability to present unequal conditions and promise of adequate remedy should justify and merit support. The State of Maryland has already passed a law containing many of the best features of the plan, although applied to but a single class of workmen. A prominent Montana coal company is about to institute a system of compulsory insurance among its employees, the railroad companies and quartz mines have had a modified form in operation for many years, while workingmen in other vocations have had protection through the hospital service. All this, however, is far removed from the concise idea of compulsory insurance, and is only mentioned to demonstrate the feasbility of transferring these widely scattered and somewhat unwieldy systems of hospital attendance in sickness or accident, into a comprehensive and modern insurance, where the burden of inevitable damages to life and limb will be borne by the business which causes them.

It is stated as a cold-blooded business proposition that the cost of accidents should be added to the cost of production exactly as in any other item. The public shares in greater or less degree in the wealth produced by the transportation and industrial enterprises, but the workmen bear alone the burden of accidents. Germany, for instance, has a system of compulsory insurance to which both employers and employees contribute. We have laws that conceal the real, hideous nature and the real, appalling cost of industrial

accidents. All the employers' liability laws in the universe will not change prevailing conditions in America.

Under compulsory insurance the remedy for an accident is to get the victim on his feet again as soon as possible and to devise the best way of preventing all accidents of that particular kind in the future.

Under employers' liability the remedy for an accident is to start a lawsuit.

The weapons of compulsory insurance are safety devices and convalescent homes.

The weapons of employers' liability are lawyers, judges, the doctrine of fellow servant.

Appeals.

In presenting the case for the adoption of a system of industrial insurance for Montana, credit is cheerfully given to Mr. William Hard and his recent articles upon the subject.

In a recent message to Congress the President said: "It is a reproach to us as a nation that in both state and federal legislation we have afforded less protection to both public and private employees than any other industrial country in the world."

A situation of that kind cannot long be permitted to continue. It is not only a reproach, but it is also a source of internal discontent and danger. And when legislation of this kind is undertaken, the best lessons will be had from Germany. That country maintains three kinds of insurance, sickness, accident and invalidity.

In the year 1904 there were 114 employers' trade accident associations, covering about 17,500,000 workmen, of whom about 150,000 received compensation for injuries incurred during the year; 600,000 were paid for accidents occurring in former years from which they had not recovered, and finally 65,000 widows and 100,000 children were also beneficiaries. The total amount of compensation for accidents during the year reached $30,500,000, while the grand total for all three classes of compulsory insurance was $126,250,000.

Approximately half this cost fell on the employer and the other half on the workmen. The real test of the expense of such a system is to take the amount paid in any one year and compare it with the total payroll for the same year. Applying this test to the Krupp gun works, the total insurance premiums paid for the year for all three classes amounted to 27 cents on every $10 of the weekly payroll, and the workman earning $10 paid in 27 cents himself. Now, no employer likes to add 2.7 per cent to his payroll. It should be remembered, however, that if accident insurance costs money, employers' liability costs money, too.

There is a large number of employers' liability companies doing business in the United States, some of them being represented in Montana. Employers pay premiums to these companies to be insured against having to pay damages to injured employees. The companies defend the suits and satisfy the damages.

The great manufacturing trusts and the railroad corporations do not

patronize these companies, nor do thousands of smaller employers, but in the year 1906 not less than $20,000,000 was paid in premiums by American employers for insurance against loss in suits for damages. The rates paid on each $100 of payroll varied from 57 cents on mechanics to $9 for men employed in steel work on high buildings. In eleven years the employers' liability companies of America took in $99,959,076 in premiums and paid out as compensation to injured workmen $43,599,498, or 43.6 per cent. These figures are not given to indicate excessive profits made by the companies, but to prove the horrible and expensive waste of such a system. For the sum paid as damages does not by any means show what the injured men actually received for damage suits, expenses for lawyers and witnesses and interminable delays. Most practical students agree that not more than 30 per cent of the actual verdict ever reaches the victim of the accident. If this be true, then $70,000,000 of the money paid to these companies is absolutely squandered.

A New York banker declares that the expenses of administration in the German system of compulsory insurance do not exceed 10 per cent, leaving 90 per cent to go directly where it is most needed.

By reason of the different systems of political divisions obtaining in the United States, as against those of foreign countries which have the most advanced laws covering this subject, there can never be any congressional act similar in its scope to the German or English. Here the states must take the initiative. Montana has thousands of men daily engaged in hazardous employments.

A most remarkable feature of accidental deaths in Montana is the fact that according to the verdicts of coroner's juries the victims almost invariably were guilty of contributory negligence. Hundreds of cases are thus summarily disposed of and but little more is ever heard of them. The widows and orphans struggle along as best they can, dependent upon relief from the trade unions or charity organizations.

One duty of the State seems to be particularly indicated. The stigma of receiving and depending upon charity should be removed from the unfortunate victims of modern productive and distributing agencies. The proposition that each industry should bear the burden of expense entailed in caring for its disabled and dependent members, exactly as all other items of cost of operations is carried, is also self evident.

More clearly than either of these, the fact stands out that neither employers' liability companies nor employers liability laws can possibly solve this great question. Concerning Montana's ability to inaugurate legislation upon this subject there can be no doubt. The primary requisite indicated is complete investigation of the entire subject, either by the Commissioner of Labor or some competent person. The data gathered should be printed and circulated freely among both employees and employers, and the mutual advantage and saving to both carefully illustrated. Legislative action should only be had after a thorough campaign of education and then only upon bills that were the product of the combined wisdom and good judgment of both parties

interested. It might perhaps be decided best that the initial experiments be confined to a single industry, letting further extension of the plan depend upon the success of that undertaking.

From information already at hand at least 52,000 men in this State are now paying an average fee of $1 a month as hospital dues, or about $625,000 a year. Let us take the railroad men as an example. The 23,100 men so employed pay a graduated hospital fee which aggregates not less than $300,000 a year. In return they receive medical and surgical services and hospital accommodation, but nothing for invalidity or total disability. Nor are their families beneficiaries in any degree whatsoever. These employees earned last year about $15,000,000. On the basis of the charge in Germany of 2.7 per cent of the payroll, they would have paid in the sum of $405,000, to which the companies would have added a like amount, making a total of $810,000. The men would be insured against sickness, accident and invalidity with benefits to dependents based upon the monthly earnings of the injured employee.

With proper provision for the investment of any existing surplus that might accumulate, two great advantages would be gained. First, rates of materially reduced payments; second, the full equivalent in protection and benefits of every dollar paid in, less the minimum cost of state administration. The latter, a very important condition, is entirely absent under any existing system of hospital dues.

Based upon the known payroll of the railroad employees, it is estimated that the payroll of all employers in the State who would come under the provisions of a compulsory insurance law is about $60,000,000. Applying the proposed rate of 2.7 per cent it appears that the total income of the insurance department would be $3,240,000 the first year. The 114 trade accident insurance companies previously mentioned paid compensation amounting to $30,500,000 to the beneficiaries accruing among 17,500,000 employees, or an average payment of $1.75 for each person.

The same ratio of payments for accidents among the 23,100 railroad employees of Montana would involve the expenditure of but $40,425 as against the $300,000 contributed as hospital dues by them. However, if sickness, accident and invalidity insurance were maintained and payments made to widows and orphans, the estimated receipts of $810,000, it is believed, would be adequate to meet all demands.

In establishing such a system of insurance the recognition of certain essentials are of paramount importance.

First—There must be universal concurrence in the idea that present conditions surrounding the treatment and recompense for injuries to employees are crude, wasteful and impotent to afford adequate relief.

Second—There must be systematic and intelligent investigation of both the old and the proposed methods of handling these cases.

Third—There must be a campaign of education to create a public sentiment which will not tolerate a continuance of present conditions, and which will support and demand a change, and finally there must be a crystallized

policy of procedure, mutually agreed upon and cordially advocated until legislative action results.

The interests involved are varied and gigantic. Such an innovation will doubtless arouse suspicion and opposition until it is thoroughly understood. Hasty and ill-considered action can only result in friction and possible failure. The situation is frought with perils so grave and consequences so far reaching that it demands the best efforts of all citizens. These must be applied, not in the heat of a political struggle, nor in the few days of a legislative session, but calmly and deliberately in the lodge room, the chambers of commerce, in conventions and public gatherings. By these means the right course will be evolved and public sentiment created to enact the wishes of tne people into law.

THE BOYCOTT CONSTITUTIONAL.

During the two years which have elapsed since the publication of the last report, there has been a number of important strikes, notably those of the printers, telegraphers, linemen and telephone operators and lumbermen. While not so important by reason of the number involved, the telephone linemen and operators' strike was, perhaps, the most far reaching in its consequences of any that has ever taken place in Montana. Although many conferences were had, peaceful settlement of the controversy was impossible. An injunction was secured by the company through the Federal Court and for alleged violation of its provisions, five union men were sentenced to varying fines and terms of imprisonment. During the progress of the dispute the labor organizations placed numerous boycotts on merchants throughout the State, one of which, in turn, applied to a district court for an injunction restraining the unions from maintaining a boycott against it. This was granted by the lower court, but upon reaching the Supreme Court of the State this action was reversed in an opinion of such far-reaching character and so vital to the union men of Montana that it is reproduced in full for reference and preservation. The opinion was written by Associate Justice Holloway and concurred in by the other members of the Court.

LINDSAY AND COMPANY, LIMITED, RESPONDENT, VS. MONTANA FEDERATION OF LABOR ET AL, APPELLANTS.

This action was commenced by Lindsay & Company, Limited, a domestic corporation, having its principal office or place of business at Helena with branch offices and places of business at Billings and Great Falls, in this State, and engaged in conducting the business of wholesale fruit and produce merchants at those places, against the Montana Federation of Labor, the Yellowstone Trades and Labor Assembly, Billings Clerks' Protective Union, certain officers of these associations, and others to secure an injunction restraining the defendants from certain acts alleged to have been committed by them and threatened to be continued. Upon the verified complaint a temporary injunction was issued. The defendants above named appeared by answer, which denies the allegations of the complaint material to this controversy, and upon such answer and oral testimony to be offered moved the court to dissolve the injunction. After a hearing the injunction was dissolved as to the defendants Joy and Doody, and modified by striking out a portion of one sentence, and, with the modifications thus made, the motion was denied, and the injunction continued in force against the remaining answering defendants. As modified, the injunction is as follows:

"You are hereby restrained and enjoined, until the further order of this court, or the judge thereof, from in any manner, directly or indirectly, interfering with or obstructing the business of plaintiff in the city of Billings and the town of Bear Creek, or in any manner interfering with any of the patrons of the plaintiff from trading or dealing with the plaintiff, or by threats, abuse, intimidation, or other means calculated or intended to interfere with the said business of the plaintiff; from declaring the plaintiff unfair, or from boycotting the plaintiff or from printing, publishing, circulating, posting, or distributing any circulars, posters, handbills, or other written or printed matter containing opprobrious or injurious epithets against said plaintiff or its business; from interfering with, intimidating, boycotting, molesting, or threatening in any manner the patrons or customers of the plaintiff, or any other person or persons, with the purpose of inducing them not to deal with or do business with the plaintiff, and from giving any directions or orders to committees, associations, unions, or any of their officers or members, or otherwise for the performance of any act in this complaint mentioned, or in any manner obstructing or interfering with the regular operations and the conduct of the business of the plaintiff, and from in any way or manner threatening, intimidating or interfering with the plaintiff or any of its officers, agents, or employees in the conduct of the plaintiff's business, or in the discharge of the duties of any such officers, agents, or employees." From the order refusing to dissolve the injunction, this appeal was taken.

For the purpose of this decision the allegations of the complaint need not be referred to at length. We are not called upon to determine the propriety of issuing the injunction in the first instance. The question for our decision is: Should the injunction have been continued in force after the hearing on the motion to dissolve was had? And the answer to this must depend upon the facts disclosed at such hearing. Stripped of all useless verbiage, these facts appeared: That some time prior to October, 1907, Lindsay & Co. had been declared unfair by the Miners' Union and Trades Assembly in Helena, and this action had been indorsed by the Montana Federation of Labor, and circulars announcing the fact had been sent to labor organizations throughout the state. On October 25, 1907, the Yellowstone Trades and Labor Assembly, upon information received of the action taken in Helena, passed a resolution which declared Lindsay & Co. unfair, and referred the matter to the grievance committee of that organization to advise the public of the action taken. Acting upon the authority thus given, the grievance commitee caused to be published and circulated among the business houses and elsewhere in Billings circulars, of which the following is a copy:

"Unfair.

"All laboring men and those in sympathy with organized labor are requested not to patronize Lindsay & Co. who are engaged in the wholesale fruit business, also distributors for cigars and vegetables of all kinds in Billings and vicinity, as they are unfair. We urge the retail merchants, laboring men, and all who are in sympathy with organized labor to place themselves in position to patronize friendly wholesalers. We further desire to call attention to the fact that Lindsay & Co. are operating peddling wagons throughout this city, and we ask the people to guard against patronizing these wagons. We ask this for your own protection and the protection of organized labor.

"(Signed) Yellowstone Trades and Labor Assembly."

That immediately after the adoption of the resolution and the publication of this circular a large number of retail dealers in Billings, who had theretofore purchased goods from the plaintiff company, ceased to do business with the concern, with the result that the business of the company at Billings was practically paralyzed, and great financial loss resulted. As stated by the witness Vaughan for plaintiff: "We have lost patronage from these merchants on account of being unfair. A circular printed and sent around. There is no other cause." Another witness for the plaintiff testified that at a meeting of the Clerks' Union in Billings early in November, 1907, the defendant Fairgrieve made the statement that "they had Lindsay & Co. on the unfair list, and they had him where they wanted him, and he believed it was a

good thing to leave him there." Fairgrieve testified that he did not remember making any such statement. However, this is immaterial to a consideration of the matter before us. From these facts we are to determine the question: Should the injunction have been dissolved? It is to be observed that only two acts of any consequence are shown to have been committed by the defendants: (1) They declared Lindsay & Co. unfair, or in the language of the respondent, boycotted the company; and (2) they published the circular set forth above, that is, they caused it to be printed and circulated.

The injunction, as modified, is very sweeping in its terms, and in that form could not be justified by any possible state of facts; but assuming that it was continued for the purpose of preventing the continuance in force of the boycott, and for the purpose of preventing the continuance in force of the boycott, and for the purpose of preventing a repetition of the publication of the circular or a similar one,—although there is not any evidence of any threat or purpose on the part of the defendants or any of them to repeat that act,—we may consider the question presented to us by reference to these two principal acts mentioned.

1. Does the continuance in force of the resolution of October 25, 1907, amount to such an invasion of plaintiff's rights as will warrant the interposition of a court of equity by injunction? To determine this question requires a brief reference to the policy pursued by courts and legislative bodies toward labor organizations, and the conflicts which have arisen between such organizations and the employers of labor.

If we accept the report in Rex v. Journeymen Tailors, 8 Mod. 11, as correct, it was held in that case that the preconcerted refusal of certain workingmen to continue their employment, even though their object was to secure an advance in wages, constituted a criminal conspiracy, which was an indictable offense at common law, although the same act done by only one individual would not have been unlawful. But by Stat. 38 & 39, Vict. c. 86, the right of laboring men to organize for their mutual protection and benefit is directly recognized in Great Britain. Whatever may have been the attitude of the courts and legislative bodies in this country toward labor organizations in the past, it is sufficient for our purpose to know that the right of workingmen to organize for the improvement of their industrial condition is now generally admitted. The great diversity of opinions among the courts has arisen over a consideration of the question: What means may trade unions employ to further the objects of their organizations? It is well known that the means frequently employed are the strike and the boycott, and, as an incident of each, picketing, the use of placards and banners, and the publication of circulars.

It is insisted by the respondent company that the defendants organized a boycott of plaintiff's business by agreeing among themselves and with other members of organized labor to withhold their patronage from the plaintiff company, and that they undertook by coersion to compel the retail dealers of Billings and others to likewise withdraw their patronage; that the resolution of October 25, 1907, was intended and understood by the defendants to express the object of their preconcerted design: and that the publication of the circular was for the purpose of intimidating the retail dealers and others. We think it may fairly be said to have been shown by the evidence that upon the adoption of the resolution of October 25th, and upon the intelligence of that action becoming general among the union men there, it was understood among those men that they would not patronize Lindsay & Co. while the interdict was in force, and would not patronize anyone who did patronize that company, and that they expected that all retailers and others in sympathy with their organizations would cease trading with the plaintiff company.

Whether the acts done by the defendant constituted a boycott, of course, depends entirely upon the definition of that term which may be adopted. The most casual observation will disclose that scarsely any two courts treating of the subject formulate the same definition. In fact, the growth and development of the country,

the influence of science and invention on the mode of conducting business, and many other causes have combined to change materially the relation of employer and employee, and, as consequent upon it, the meaning of the terms employed at the time Capt. Boycott was literally sent to Coventry by the tenants of Connemara. We are referred by respondent to three definitions of the term given in 5 Cyc. 995, as follows: "A combination of many to cause a loss to one person by coercing others, against their will, to withdraw from him their beneficial business intercourse, through threats that unless others do so, the many will cause similar loss to them; an organized effort to exclude a person from business relations with others by persuasion, intimidation, and other act which tend to violence, and thereby coerce him, through fear of resulting injury, to submit to dictetation in the management of his affairs; a combination between persons to suspend or discontinue dealings or patronage with another person or persons because of the refusal to comply with a request of him or them." If we adopt any one of these, the evidence would fail to bring the acts of the defendants within the definition. But we prefer a broader definition, and one we deem more consonant with present-day conditions. We are of the opinion that the evidence shows that these defendants inauguarated a boycott on Lindsay & Co., and that it was still in effect at the date of hearing. We adopt the language of the Supreme Court of New York in Mills v. United States Printing Co., 99 App. Div. 605, 91 N. Y. Supp. 185, in which the court, speaking through Justice Jenks, said:"I think that the verb 'to boycott' does not necessarily signify that the doers employ violence, intimidation, or other unlawful coercive means; but that it may be correctly used in the sense of the act of a combination, in refusing to have business dealings with another until he removes or ameliorates conditions which are deemed inimical to the welfare of the members of the combination, or some of them, or grants concessions which are deemed to make for that purpose."

In Ulery v. Chicago Live Stock Exchange, 54 Ill. App. 233, it is said: "A person, with or without reason, may refuse to trade with another; so may ten or fifty persons refuse. An individual may advise his neighbor or friend not to trade with another neighbor. He may even command when the command amounts only to earnest advice."

But what is there unlawful in the act of the union workingmen of Billings in withdrawing their patronage from the plaintiff? Certainly it cannot be said that Lindsay & Co. had a property right in the trade of any particular person. In this country patronage depends upon goodwill, and we do not think that it will be contended by any one that it was wrongful or unlawful, or violated any right of the plaintiff company or any particular individual in Billings to withdraw his patronage from Lindsay & Co., or from any other concern which might be doing business with that company, and that, too, without regard to his reason for doing so. But there can be found running through our legal literature many remarkable statements that an act perfectly lawful when done by one person becomes by some sort of legerdemain criminal when done by two or more persons acting in concert, and this upon the theory that the concerted action amounts to a conspiracy. But with this doctrine we do not agree. If an individual is clothed with a right when acting alone, he does not lose such right merely by acting with orders, each of whom is clothed with the same right. If the act done is lawful, the combination of several persons to commit it does not render it unlawful. In other words, the mere combination of action is not an element which gives character to the act. It is the illegality of the purpose to be accomplished, or the illegal means used in furtherance of the purpose, which makes the act illegal. (18 Ency. of Law, 2d ed, 82; Bohn Mfg Co. v. Hollis, 54 Minn. 223, 55 N W. 119, 21 L. R. A. 337, 40 Am. St. Rep. 319). "A conspiracy is a combination of two or more persons by some concerted action to accomplish a criminal or unlawful purpose, or to accomplish a purpose, not in itself criminal or unlawful by criminal or unlawful means." (Anderson's Law Dictionary; 234, approved in Spies v. People, 122 Ill., p. 212, 12 N. E. 865, 17 N. E. 898, 3

Am. St. Rep. 320.) Speaking to this same subject, Mr. Justice Holmes, now of the United States Supreme Court, then a member of the Supreme Judicial Court of Massachusetts, in Vegelahn v. Gunter, 167 Mass. 92, 57 Am. St. Rep. 443, 44 N. E. 1077, 35 L. R. A. 772, said: "But there is a notion which latterly has been insisted on a good deal, that a combination of persons to do what any one of them lawfully might do by himself will make the otherwise lawful conduct unlawful. It would be rash to say that some as yet unformulated truth may not be hidden under this proposition. But in the general form in which it has been presented and accepted by many courts, I think it plainly untrue, both on authority and on principle."

In Macauley Bros. v. Tierney, 19 R. I. 225, 61 Am. St. Rep. 770, 33 Atl. 1, 37 L. R. A. 455, the court said: "To maintain a bill on the ground of conspiracy, it is necessary that it should appear that the object relied on as the basis of the conspiracy or the means used in accomplishing it were unlawful. What a person may lawfully do a number of persons may unite with him in doing without rendering themselves liable to the charge of conspiracy, provided the means employed be not unlawful." Upon the same subject the court of appeals of Indiana, in Clemmit v. Watson, 14 Ind. App. 38, 42 N. E. 367, said: "So far as appears by these instructions, none of the appellants were under any continuing contract to labor for their employer. Each one could have quit without incurring any civil liability to him. What each one could rightfully do, certainly all could do if they so desired, especially when their concerted action was taken peaceably, without any threats, violence, or attempt at intimidation." Chief Justice Parker, in speaking for the court of appeals in National Protective Association v. Cumming, 170 N. Y. 315, 88 Am. St. Rep. 648, 63 N. E. 369, 58 L. R. A. 135, said: "Whatever one man may do alone, he may do in combination with others provided they have no unlawful object in view. Mere numbers do not ordinarily affect the quality of the act."

We hold, then, that a labor organization may employ the boycott as herein defined in furtherance of the objects of its existence. If, however, the means by which it enforces the boycott are illegal, then it may render its members amenable to the processes of the law; but, if they are not, the courts are powerless to render assistance to the person or firm boycotted, even though financial loss results as the direct consequence of the boycott. It may be true that, speaking generally, no one has the right intentionally to do an act for the purpose of injuring another's business; but injury, however, in its legal significance, means damage resulting from the violation of a legal right, and it is the violation of the legal right which renders an act wrongful in the eye of the law and makes it actionable. (Macauley Bros. v. Tierney, above.)

If, then, these defendants and their associates did not violate any legal right of the plaintiff in withdrawing their patronage from the company, or in agreeing to withdrew their patronage from any one who might patronize Lindsay & Co. they cannot be enjoined from continuing the boycott in force so long as the means employed to make the boycott effective are not illegal. The evidence shows that the the only means used in this instance was the publication of the circular in question, and this brings us to a consideration of the second proposition involved.

2. (a.) May a court of equity enjoin the publication by an individual of a circular of this character; (b) if not, may it enjoin such publication when made by a number of individuals acting collectively?

(a) Article III of our Constitution is entitled: "A Declaration of Rights of the People of the State of Montana," and section 10 of that Article, so far as applicable here, reads as follows: "No law shall be passed impairing the freedom of speech; every person shall be free to speak, write, or publish whatever he will on any subject, being responsible for all abuse of that liberty." The language here employed seems too clear to admit of doubt or argument. The one fundamental idea conveyed by this section is penalty for a violation of the privilege, not prevention of its abuse. It cannot be said that a citizen of Montana is free to publish whatever he will on any subject, while an injunction preventing him from publishing a particular item

upon a particular subject hangs over his head like a sword of Damocles, ready to fall with all the power which can be invoked in contempt proceedings, if he does the very thing the section of the Constitution says he may do. It is impossible to conceive the idea that the individual has an absolute right to publish what he pleases, subject to the restriction mentioned, and at the same time to entertain the idea that a court may prevent him from doing so. The two ideas cannot possibly coexist. The language of the section is not susceptible of any other meaning than this: That the individual citizen of Montana cannot be prevented from speaking, writing, or publishing whatever he will on any subject. If, however, what he writes or publishes constitutes a criminal libel, he may be held responsible for the abuse of the liberty in a criminal prosecution (Penal Code, Title VIII, Chapter VIII), or, if what he speaks, writes, or publishes wrongfully infringes the rights of others, he may be held responsible for the abuse in a civil action for damages. If this is not the meaning of the section, it is because the framers employed language which is impotent as a vehicle for conveying their idea.

But it is suggested by counsel for respondent company that these defendants are insolvent, and that the judgment for damages would be worthless. Even granting this to be so, still the Constitution does not discriminate among men according to the amount of their possessions. The guaranty of this section extends as fully to the poorest as to the wealthiest citizen of the state, and, though an abuse of the liberty so guaranteed may result in loss for which there cannot be any adequate compensation, the framers of our Constitution in preparing it, and the people in adopting it, doubtless concluded that it was better that such results be reached in isolated cases, than that the liberty of speech be subject to the supervision of a censor. To declare that a court may say that an individual shall not publish a particular item is to say that the court may determine in advance just what the citizen may or may not speak or write upon a given subject—is, in fact, to say that such court is a censor of speech as well as of the press. Under similar constitutional provisions, the Supreme Court of California and Missouri have reached the same conclusion. (Daily v. Superior Court, 112 Cal. 94, 53 Am. St. Rep 160; 44 Pac. 548, 32 L. R. A. 273, Marx & Haas Jeans Clothing Co. v. Watson, 168 Mo. 133, 90 Am. St. Rep. 440, 67 S. W. 391, 56 L. R. A. 951.

(b) What we have said above, in the first paragraph of this opinion, is likewise applicable here. If any one of these individuals could publish this circular, they may with equal security all join in its publication.

We think the evidence produced at the hearing was insufficient to justify the continuance in force of the injunction, and it should have been dissolved.

The order of the court is reversed, and the cause is remanded, with direction to vacate the order heretofore made and enter an order dissolving the injunction.

Reversed and remanded.

LABOR AND THE UNITED STATES SUPREME COURT.

Early in the year 1908 several decisions which vitally affect the labor movement in the Unted States were rendered, and as various Montana unions are now being sued for $10,000 damages, such action being based upon the famous boycott decision, a brief resume of the issues involved may not be out of place. The first of the decisions was rendered January 6, 1908, in the case of some railway employees who sought to recover damages for injuries under the Federal Employers' Liability Act. This act the Supreme Court declared to be unconstitutional. The second finding, on January 23, that an employer had a right to discharge an employee for no other reason than his membership in a labor organization, was the hardest blow ever struck at the unions up to that time, but on February 3 came the climax, when, under the seventh

section of the Sherman Anti-Trust Act, the court decided that a boycott was illegal, a conspiracy in restraint of trade, when placed upon articles entering into interstate trade.

Under the terms of the section mentioned the complaining party may collect three times the amount of his loss if the charge is sustained. The unions fought the case upon the grounds that the law was not applicable to such organizations, but the court was unanimous in the opinion that it was, sustaining and amplifying a former decision and an injunction under which three of the most prominent labor men of the United States were called to answer for contempt of court. So much has been said regarding these decisions and their results, so far as organized labor is concerned, that it is needless at this time to discuss them at length. It is sufficient to record the fact that organizations of labor engaging in a boycott on goods entering into another state from that in which they are manufactured, are held by the Supreme Court, under existing law, to be illegal and criminal combinations, to be proceeded against by the Government and subject, both as regards the union itself and also its members individually, to judgment for damages in three times the amount of loss proven to have been inflicted upon the boycotted firm. This is the famous, or otherwise, Taft-Vail decision of the English courts, now superceded by the British Trades Union Act, which specifically recognizes the fact that labor is not a commodity like pig iron or wool. Whether it is possible to pass a similar measure through Congress remains to be seen, but if there is to be a progressive trade union movement in this country that, and other laws, are an absolute necessity. Montana has no anti-trust or anti-monopoly law, therefore the unions and the corporations are exactly on the same footing, so far as combinations in restraint of trade are concerned. An act which makes a combination of capital to maintain a monopoly unlawful, but exempts unions of working men and farmers' organizations from its provisions, has been declared unconstitutional as class legislation. However, the British Act, as stated above, distinctly separates the two classes of combination, and being an act of parliament, there is no higher body to say that the people shall not so discriminate.

With an adverse decision of the United States Supreme Court already on record, it is difficult to see how the matter will be finally adjusted; but one thing is certain: Organized labor will never consent to forego submissively their right to withhold patronage from avowed enemies, and to advise and encourage their friends to do likewise. Neither will they silently allow their unions to be classed and branded as criminal conspirators, belonging in the same category as the notorious and universally abhorred monopolies in the necessaries of life commonly known as trusts.

The objects of the two combinations are so vastly dissimilar, so fundamentally apart in the results sought to be obtained, that their conjunction by law, or even by court decisions, seems little short of ridiculous.

The union primarily and universally seeks to improve the standard of living; to enable the workers to purchase and enjoy more of the necessaries and comforts of life; more and better food; better clothing, shelter and educa-

tion. In a word, it is humanitarian. On the other hand, the trust by controlling prices proceeds to make it harder for every individual to secure these very essentials. If there is a trust with a single humanitarian motive or generous impulse it has yet to be heard of.

THE BUTTERICK CASE.

In a suit known locally as the Butterick case, permanent injunction against the Montana Federation of Labor, the Anaconda Clerks' Union and the Anaconda, Butte and Helena Typographical Unions was sought to restrain them from interfering with the sale of Butterick patterns, and to recover damages in the sum of $10,000.

Evidence was taken before a master in chancery and the case against all the organizations except the State Federation of Labor and the Anaconda printers was dismissed by him.

THE BELL TELEPHONE STRIKE.

In the case of the Bell Telephone Company against the State Federation of Labor, where a permanent injunction was sought and to recover damages, the same master in chancery took evidence and returned his findings to the court. Here there was a mutual agreement between the parties to the controversy under which all damage suits were withdrawn and the company declared fair.

STATEMENT OF BUSINESS TRANSACTED BY THE BUTTE FREE PUBLIC EMPLOYMENT OFFICE FOR THE FISCAL YEAR ENDED NOVEMBER 30, 1907.

Month.	Applications for Work.		Applications for Help.		Positions Filled.		Nature of Positions Filled.									Positions Filled in the City.		Positions Filled out of the City.	
							Male.					Female.							
							Ice Men	Laborers, Miners, Section Men	Milkers and Ranchers	Woodchoppers	Miscellaneous	Chambermaids, Day Workers, Domestics.	Canvassers and Solicitors	Hotel and Restaurant Help	Miscellaneous				
	Male	Female	Male	Female	Male	Female										Male	Female	Male	Female
December, 1906	252	261	183	187	176	155	....	97	41	28	10	105	20	19	11	87	101	89	54
January, 1907	247	253	151	174	137	125	11	89	14	14	10	98	19	7	11	52	91	85	34
February	758	407	296	381	203	261	....	157	21	20	5	187	25	34	15	95	183	106	78
March	407	513	341	423	289	315	....	161	70	33	25	189	48	46	32	126	209	163	196
April	327	405	293	339	214	226	....	130	52	....	32	141	38	32	15	110	83	94	143
May	241	295	205	216	134	187	....	93	31	....	10	123	31	27	6	37	101	97	86
June	575	278	225	373	188	243	....	109	50	....	29	70	....	130	43	98	219	24	90
July	560	303	387	446	327	255	....	199	168	....	60	126	....	73	53	119	215	208	40
August	563	228	525	369	401	232	....	185	160	13	43	117	....	107	8	151	197	250	35
September	884	238	740	329	743	247	....	642	24	53	24	140	....	102	5	76	202	667	45
October	612	237	903	268	544	218	....	407	38	28	71	107	....	90	21	100	181	444	37
November	400	185	381	182	304	146	....	218	17	34	35	89	....	47	10	49	116	255	30
Total	5,826	3,603	4,630	3,687	3,660	2,610	11	2,487	686	223	354	1,492	181	714	233	1,100	1,898	2,482	868

STATEMENT OF BUSINESS TRANSACTED BY THE BUTTE FREE PUBLIC EMPLOYMENT OFFICE FOR THE FISCAL YEAR ENDED NOVEMBER 30, 1908.

Month.	Applications for Work.		Applications for Help.		Positions Filled.		Nature of Positions Filled.										Positions Filled in the City.		Positions Filled out of the City.	
							Male.					Female.								
							Miners, Section Men and Laborers...	Ranch Hands and Milkers.....	Woodchdppers.....	Miscellaneous.....	Total.....	Chambermaids, Domestics and Day Helpers	Hotel and Restaurant Help.....	Miscellaneous.....	Total.....					
	Male	Female	Male	Female	Male	Female											Male	Female	Male	Female
December, 1907..	225	146	46	154	66	106	41	8	4	13	66	58	34	13	106		40	95	26	11
January, 1908...	208	173	77	193	76	165	40	3	19	14	76	71	72	22	165		45	142	23	31
February ..	168	143	63	170	63	138	38	7	6	12	63	68	47	23	138		38	123	25	15
March ...	340	219	107	373	106	303	63	19	....	24	106	138	120	45	303		57	26	49	277
April ..	317	307	161	360	151	293	103	28	....	20	151	138	136	29	293		82	275	69	18
May ...	225	204	118	279	105	195	68	16	....	21	105	94	76	25	195		46	161	59	34
June ..	488	242	265	260	260	202	220	12	....	28	202	92	84	26	202		183	24	77	178
July ...	360	245	291	333	233	225	156	47	....	30	233	123	86	16	225		118	201	115	24
August ..	376	200	386	302	278	186	189	52	....	37	278	103	63	20	186		77	165	201	21
September ...	225	235	165	316	138	217	101	12	....	25	138	130	67	20	217		78	195	60	22
October ...	323	189	332	247	239	177	168	43	....	28	239	100	60	17	177		71	162	168	15
November ...	223	230	190	237	180	210	155	5	....	20	180	121	71	18	210		85	200	95	10
Total	3,478	2,533	2,221	3,224	1,895	2,417	1,342	252	29	272	1,837	1,236	916	274	2,417		920	1,769	967	656

STATEMENT OF THE BUSINESS TRANSACTED BY THE GREAT FALLS FREE EMPLOYMENT OFFICE FOR THE YEAR ENDED NOVEMBER 30, 1907.

Month.	Applications for Work.		Applications for Help.		Positions Filled.		Nature of Positions Filled.											Positions Filled in City.		Positions Filled Out of City.	
							Male.					Female.									
							Clerks	Dairymen	Laborers	Ranch Hands	Miscellaneous	Chambermaids	Day Workers	Domestics	Hotel and Restaurant	Miscellaneous					
	Male	Female	Male	Female	Male	Female												Male	Female	Male	Female
December, 1906	72	9	23	7	17	5	..	..	11	4	2	2	..	3	..	..		3	4	9	1
January, 1907	41	16	7	9	4	5	..	..	4	..	..	..	..	3	2	..		2	4	2	1
February	63	17	14	9	11	6	..	..	7	4	..	..	..	3	3	..		6	4	5	2
March	125	22	17	6	9	4	..	2	4	3	..	2	..	2	3	..		4	2	5	2
April	57	16	22	14	16	7	..	..	7	9	..	..	..	4	3	..		7	4	9	3
May	175	7	25	14	8	2	..	..	7	1	..	..	..	1	..	1		5	1	3	1
June	67	10	26	9	14	3	1	..	5	6	2	..	..	2	1	..		8	2	6	1
July	47	9	63	15	42	6	2	..	14	23	3	..	2	2	2	..		17	4	25	2
August	56	7	89	15	32	2	1	..	3	25	3	..	1	1	..	..		7	1	25	1
September	63	10	37	17	33	7	1	..	15	14	3	..	1	4	2	..		17	5	16	2
October	118	12	34	10	28	7	2	..	17	8	1	..	1	4	2	..		15	2	13	5
November	117	12	7	4	6	2	..	..	3	1	2	..	..	1	1	..		3	..	3	..
Total	1,001	147	364	129	220	56	7	2	97	98	16	4	5	30	16	1		94	33	121	21

STATEMENT OF THE BUSINESS TRANSACTED BY THE GREAT FALLS FREE EMPLOYMENT OFFICE FOR THE YEAR ENDED NOVEMBER 30, 1908.

Month.	Applications for Work.		Applications for Help.		Positions Filled.		Nature of Positions Filled.										Positions Filled in City.		Positions Filled Out of City.	
							Male.					Female.								
							Clerks	Dairymen	Laborers	Ranch Hands	Miscellaneous	Chambermaids	Day Workers	Domestics	Hotel and Restaurant	Miscellaneous				
	Male	Female	Male	Female	Male	Female											Male	Female	Male	Female
December, 1907	76	9	10	3	5	1	..	..	3	1	1	..	..	..	1	..	3	..	2	1
January, 1908	72	12	14	7	7	2	..	..	5	1	1	..	1	1	..	..	5	1	2	1
February	54	7	5	10	4	2	..	..	2	3	..	..	1	1	2	..	2	2	3	2
March	34	9	17	5	8	3	..	..	3	4	1	..	..	2	1	..	2	2	6	1
April	57	8	17	5	12	6	..	..	7	4	1	..	1	2	1	..	5	3	7	1
May	57	9	12	3	6	2	..	..	2	3	1	..	..	1	1	..	3	2	3	..
June	72	4	9	10	6	4	..	..	2	4	..	..	1	2	1	..	2	3	4	1
July	58	7	36	8	18	3	..	..	9	7	2	..	1	2	..	..	2	3	16	..
August	26	7	10	18	10	3	1	..	4	3	2	..	1	2	..	..	2	2	7	1
September	74	15	12	7	12	3	..	..	4	7	1	..	1	2	..	..	3	3	9	..
October	65	7	9	5	6	3	..	..	4	1	1	..	1	2	..	..	2	2	4	1
November	62	6	3	2	3	1	..	..	2	..	1	..	..	1	..	..	1	1	2	..
Total	707	100	154	83	97	33	1	..	47	38	12	..	8	18	7	..	32	24	65	9

INDUSTRIES.

The panic of 1907 seriously affected two of Montana's most prominent industries, mining and the railroads, these in turn depressing every subsidiary interest. At the moment of recovery enormous damage to the railroads by floods retarded the opening of the smelters for several months.

These conditions had a deterrent effect upon investment and extension in all industries, though not by any means to an extent to be even reasonably expected.

Certain proposed plans were simply deferred until such time as the eastern money market should assume favorable conditions, but in many instances where the financing of operations had already been provided for work was continued as though the panic did not exist.

During the summer of 1908 work was begun on three new and very extensive power dams, besides the reconstructon of the Hauser Lake plant of the Missouri River Power Company. The completion of these enterprises will make the total production of electrical power in Montana approximately 165,000 horsepower. It seems inevitable that this vast power must attract manufacturing enterprises to the State, especially about the localities where it is generated.

Mining and its associated occupations continues to hold first place in the employment of labor and payment of wages. While the records of the past two or three years are somewhat discouraging if viewed solely from the returns, the business itself was never in a more flourishing and substantial condition than at present. Mines and smelters alike have been brought to the very highest state of efficiency through the expenditure of millions of dollars in enlargement and equipment.

New levels in the mines have disclosed rich and extensive ore bodies, and properties idle for a number of years are about to resume their places as producers and dividend payers. Prospects are bright for better prices in the copper market, as the stocks on hand are low, while the evidences of large and growing demands for increased consumption are unmistakable.

Higher prices for silver seem very likely and indications are for an increased production of gold from cyaniding and other processes. Investigations in well-known but unworked deposits of low-grade ore are being continued by experts backed by unlimited capital and these districts will eventually take high rank as producers of precious metals.

MINES AND MINERALS.

Reports received by the United States Geological Survey from 436 mines in Montana producing gold, silver, copper, lead and zinc show that the

total value of these metals for the year ending Dec. 13, 1907, was $53,670,592, as against $69,257,083 for the preceding twelve months.

These totals include the production from the 123 placer mines, which produced $18,006 in gold and silver in 1907. The remarkable decrease shown in these figures may be attributed directly to conditions which resulted in the closing of the mines at Butte, thus necessarily shutting down the smelters, and the increase in rates made by the greatest custom smelter in the State, which forced many small mines to suspend operations.

In this connection it is interesting to notice that the decrease in silver for Montana was 2,663,100 fine ounces, while for Silver Bow County it was 3,199,062 fine ounces. Similarly, the decrease in copper for the State was 70,592,183 pounds, while for Silver Bow County it was 70,943,423 pounds. Obviously the gain in production of copper and silver in other counties has offset in part the loss in this one county, but the figures show conclusively the part Butte mines sustain in the total mineral production of the State.

By this great decrease in her copper production in 1907, Montana yielded her pre-eminence among copper producing States to Arizona.

The percentages of decrease in values in 1907, as compared with 1906, are: Gold, 26.46; silver, 23.39; copper, 21.54; lead, 21.91; zinc, 96.43. Figures for the production for 1908 are, of course, not available for publication at this time, but conservative estimators believe that they will show possibly several million dollars' decrease from those of 1907.

The basis for this estimate is the closing of the mines by the panic and the complete prostration of railroad service for several weeks by reason of disastrous floods which came just at the time mines and smelters were prepared to resume operations. The floods occurring in June, and the shutdow in the previous winter, lost practically the whole half year to the operators.

The fact that silver has touched the lowest point in price for many years will also be a factor in diminishing the year's production. Notwithstanding these deplorable conditions, the progress and development of Montana mining properties is going steadily on, and the technical and economic phases of this industry are being more thoroughly mastered than ever before.

The application of the most scientific methods of existing mines, the continued discovery and development of new districts, and the invention of wonderful new processes for working low grade ores and tailings, will all operate to keep Montana in the front rank of the metal producing States.

The most important developments in the gold and silver mining industries in Montana in 1906 were closely connected with the great expansion of mining activity in Silver Bow County. This county furnished about 90 per cent. of the silver product of the State, and more than 25 per cent. of the gold output.

The mining activity took the form of the organization of a large number of new mining companies, many of which undertook exploratory work on a large scale at once. This work is still in progress, and the results cannot be expected to be in evidence for some years. Some ore deposits were dis-

covered east of Butte at shallow depth during 1906, but successful mining in this district has required great depth. The large mining companies in Butte all had a prosperous year because of the high average prices obtained for copper and silver. They were all engaged in development work, both outside the known area of proved ore bodies and in sinking to new depths inside this area. Thus the High Ore shaft is now down 2,875 feet, having been sunk 400 feet during 1906. Several other mines have reached 2,400 and 2,600 feet in depth. Fortunately for the future of the mining industry in Butte, developments at these depths have proved very satisfactory and continued activity and prosperity are assured. In spite of this active development work, production of gold and silver in Silver Bow County decreased in 1906. This was due to various causes, but probably the most important factor involved was the fact that the high price obtainable for copper and silver led the mining companies to extract ore carrying greater values in copper, silver and gold than ever before.

For the very valuable information upon the subject of metal production for the years 1906 and 1907 the Bureau is indebted to the courtesy of Mr. Geo. Otis Smith, Director of the United States Geological Survey.

PRODUCTION OF GOLD, SILVER AND ASSOCIATED METALS, AND THEIR ORES, IN MONTANA IN 1906 AND 1907.

Metal.	1906.		1907.		Increase (+) or decrease (—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces..	216,188.56	$ 4,469,014	158,970.51	$3,286,212	— 57,218.05	—$1,182,802
Silver .....fine ounces..	11,980,705	8,027,072	9,317,605	6,149,619	— 2,663,100	— 1,877.453
Copper .....pounds..	290,700,975	56,105,288	220,108,792	44,021,758	—70,592,183	—12,083,530
Lead .....pounds..	4,462,979	254,390	3,748,304	198,660	— 714,675	— 55,730
Zinc .....pounds..	6,579,000	401,319	243,100	14,343	— 6,335,900	— 386,976
Total value	.....	69,257,083	.....	53,670,592	.....	—15,586,491
Ore output..short tons..	5,497,971	* 12.60	4,148,496	*12.85	— 1,349,475	+ *.25

* Value per ton, placer product excluded.

GOLD.

In the production of placer gold there were notable increases in Beaverhead. Deer Lodge, Granite, Lewis and Clark, and Powell counties. The yield from this source in Madison County shrank to about half the proportions of 1906, but was still considerably more than half of the placer total for the State.

Five counties in order of rank in production of gold from deep mines were Silver Bow, Fergus, Lewis and Clark, Jefferson, and Chouteau. Fergus County led in the production from siliceous ores, Silver Bow County from copper ores, Lewis and Clark County from lead ores, and Madison County from mixed ores. The average yield of gold from copper ores for the State was 17 cents; from the copper ores of Silver Bow County it was 15.9 cents, nearly. The average for the State from siliceous ores was $5.34, and although the tonnage of these ores was low in comparison with that of copper ores the largest yield in gold belonged to siliceous ores. Other points of comparison may be derived from the following table:

SOURCE OF GOLD PRODUCT IN MONTANA, BY KINDS OF ORE, IN 1907, BY COUNTIES, IN FINE OUNCES.

County.	Placers.	Deep Mines.					Grand total.
		Siliceous ores.	Copper ores.	Lead ores.	Mixed, chiefly copper-lead-zinc ores	Total.	
Beaverhead	216.19	24.33	13.64	4.79	.....	42.76	258.95
Broadwater	291.12	571.55	2,183.89	565.12	.....	3,320.56	3,611.68
Cascade	.....	533.81	.....	42.14	.....	575.95	575.95
Chouteau and Flathead	258.71	13,026.42	.....	.....	.....	13,026.42	13,285.13
Deer Lodge	294.22	3,400.71	.....	9.10	.....	3,409.81	3,704.02
Fergus	71.50	31,241.30	.....	3.68	.....	31,244.98	31,316.48
Granite	512.05	2,811.56	1.60	10.30	.....	2,823.46	3,335.51
Jefferson	142.71	14,521.06	81.56	779.76	.....	15,382.38	15,525.09
Lewis and Clark	1,237.72	21,683.80	.....	3,293.03	9.97	24,986.80	26,224.52
Madison	9,462.59	6,649.05	32.02	269.84	2,002.14	8,953.05	18,415.64
Meagher, Park and Ravalli	321.16	1,008.81	.....	2.32	.....	1,011.13	1,332.29
Missoula	2,010.85	.....	17.27	.....	.....	17.27	2,028.12
Powell	1,181.61	2,381.16	.....	1,426.77	.....	3,807.93	4,989.54
Silver Bow	866.35	1,877.52	28,442.10	58.63	3,122.99	33,501.24	34,367.59
Total	16,866.77	99,731.08	30,772.08	6,465.48	5,135.10	142,103.74	158,970.51

SILVER.

In the production of silver from placers Madison County ranked first, as in the yield of gold from the same source. From the totals it appears that the silver content of the placer product of Madison County was high, and that the ratio of silver to gold in the same product from Missoula County was very low.

On account of the heavy tonnage of copper ores their average yield in silver of even less than 2 ounces per ton threw the balance largely in their column. In total production of silver Jefferson County ranks second only to Silver Bow County; the total silver from the former county has risen in rank above both Cascade and Granite counties since 1906. The table given herewith accounts for the sources of silver in the ores of the different counties.

SOURCE OF SILVER PRODUCT IN MONTANA, BY KINDS OF ORE, IN 1907, BY COUNTIES, IN FINE OUNCES.

County.	Placers.	Deep Mines.					Grand total.
		Siliceous ores.	Copper ores.	Lead ores.	Mixed, chiefly copper-lead-zinc ores.	Total.	
Beaverhead	22	33,450	14,189	19,795	.....	67,434	67,456
Broadwater	45	3,521	85	7,541	.....	11,147	11,192
Cascade	.....	117,295	.....	79,829	.....	197,124	197,124
Chouteau and Flathead	15	16,835	.....	.....	.....	16,835	16,850
Deer Lodge	33	704	.....	340	.....	1,044	1,077
Fergus	189	2,786	.....	655	.....	3,441	3,630
Granite	138	436,797	4,639	14,522	.....	455,958	456,096
Jefferson	24	674,749	18,333	82,053	.....	775,135	775,159
Lewis and Clark	438	65,293	1,412	96,849	1,484	165,038	165,476
Madison	1,569	67,535	.....	1,694	3,034	72,263	73,832
Meagher, Park and Ravalli	40	236	87	6,160	.....	6,483	6,523
Missoula	89	.....	5,924	103	.....	6,027	6,116
Powell	160	11,641	.....	8,614	.....	20,255	20,415
Silver Bow	147	266,203	7,118,419	10,230	121,660	7,516,512	7,516,659
Total	2,909	1,697,045	7,163,088	328,385	126,178	9,314,696	9,317,605

COPPER.

The reported intention of the leading copper producers of the State to restrict the production of that metal for the year 1907 to 70 per cent. of normal was hardly fulfilled. The yield in pounds for 1907 was 220,108,792, which is a little more than 75 per cent. of the 290,700,975 pounds of 1906, and a little more than 72 per cent of the yield of 1905. The value of the metal produced in the State in 1907 was $44,021,758; and for 1906, $56,105,288. Owing to the slightly higher average price for 1907 the ratio of decrease in value from the high mark of 1906 was not so large as that of decrease in pounds. The returns of production showed an improvement in Broadwater and Missoula counties, creditable to the Eclipse-Argo mine in Broadwater County and to Hidden Treasure, Cape Nome and Triangle mines in Missoula county. Four counties in order of importance of production are Silver Bow, Broadwater, Jefferson, and Beaverhead; none of these showed a production of less than 125,000 pounds.

LEAD.

The lead totals for Montana in 1907 were 3,748,304 pounds, giving a value of $198,660. The yield in 1906 was 4,462,979 pounds, valued at $254,390. There were decreases in all counties except Deer Lodge, Jefferson, Lewis and Clark, and Missoula. The first and last named counties, however, did not report lead in 1906. In Jefferson county there was the marked increase from 811,616 pounds in 1906 to 1,414,952 pounds in 1907; in Lewis and Clark County there was the proportionately large gain from 522,248 pounds in 1906 to 1,000,337 pounds in 1907. In the latter county the lead ores were the chief source of silver, and an important source of gold. In Beaverhead, Cascade, Granite, and Jefferson counties also the lead ores yielded largely in silver.

ZINC.

Little zinc was recovered from the ores of the State. The total yield for 1907 was 243,100 pounds, valued at $14,343. The yield for 1906 was 6,579,000 pounds, worth $401,319. In many districts there are paying quantities of the metal, but mills for its profitable separation have not been perfected. Notable among the possible zinc-producing counties are Jefferson, Lewis and Clark, Madison, Powell and Silver Bow. Electrostatic experiments are in progress on the making of a zinc concentrate from the ores of the northern portion of the Summit Valley district at Butte.

PRODUCTION OF GOLD, SILVER, COPPE R, LEAD AND ZINC IN MONTANA IN 1907, BY COUNTIES.

County.	Gold.				Silver.		Copper.		Lead.		Zinc.		Total value.
	Placer.		Deep Mines.										
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
	Fine ounces		Fine ounces		Fine ounces		Pounds		Pounds		Pounds		
Beaverhead	216.19	$ 4,469	42.76	$ 884	67,456	$ 44,521	129,195	$ 25,839	88,239	$ 4,677	$		$ 80,390
Broadwater	291.12	6,018	3,320.56	68,642	11,192	7,387	660,152	132,030	143,570	7,609			221,686
Cascade			575.95	11,906	197,124	130,102			255,720	18,853			160,861
Chouteau and Flathead	258.71	5,348	13,026.42	268,280	16,850	11,121							285,749
Deer Lodge	294.22	6,082	3,409.81	70,487	1,077	711	8,848	1,770	4,106	218			79,268
Fergus	71.50	1,478	31,244.98	645,891	3,630	2,396	1,219	244	52,519	2,783			652,792
Granite	512.05	10,585	2,823.46	58,366	456,096	301,023	44,311	8,862	71,237	3,776			382,612
Jefferson	142.71	2,950	15,382.38	317,982	775,159	511,605	238,822	47,764	1,414,952	74,992			955,293
Lewis and Clark	1,237.72	25,586	24,986.80	516,523	165,476	109,214	27,367	5,473	1,000,337	53,018			709,814
Madison	9,462.59	195,609	8,953.05	185,076	73,832	48,729	33,854	6,771	90,037	4,772			440,957
Meagher, Park and Ravalli	321.16	6,639	1,011.13	20,902	6,523	4,305	40,800	8,160	130,000	6,890			46,896
Missoula	2,010.85	41,568	17.27	357	6,116	4,037	86,200	17,240	9,000	477			63,679
Powell	1,181.61	24,426	3,807.93	78,717	20,415	13,474	1,397	279	164,911	8,740			125,636
Silver Bow	866.35	17,909	33,501.24	692,532	7,516,559	4,960,995	218,836,627	32,767,325	223,676	11,855	243,100	14,343	49,464,959
Total	16,866.77	348,667	142,103.74	2,937,545	9,317,605	6,149,619	220,108,792	44,021,758	3,748,301	198,660	243,100	14,343	53,670,592

The following table shows the number of mines operating. There were 436 producing mines in 1907. against 370 in 1906. The number of placer mines in 1907 was 131, almost double that of 1906. The producing deep mines numbered 305 in 1907, against 308 in 1906:

NUMBER OF MINES IN MONTANA CLASSIFIED BY CHIEF PRODUCT IN 1907, BY COUNTIES.

County.	Placers.			Deep Mines.								Total mines producing.
	Hydraulic and surface.	Drift.	Dredge.	Gold.	Silver.	Copper.	Gold-silver.	Gold-silver-lead	Silver-copper.	Silver-lead.	Total.	
Beaverhead	4	1	....	....	2	2	1	a1	.....	b5	11	16
Broadwater	11	1	....	6	....	1	c3	d8	.....	1	19	31
Cascade	....	....	....	1	2	.....	2	6	.....	6	17	17
Chouteau and Flathead	2	....	....	1	.....	.....	1	.....	.....	.....	2	4
Deer Lodge	5	....	....	c6	.....	.....	1	2	.....	.....	9	14
Fergus	2	....	....	1	.....	.....	3	.....	.....	2	6	8
Granite	9	....	....	4	3	1	5	a2	1	e5	21	30
Jefferson	8	1	....	1	1	.....	11	f17	2	2	34	43
Lewis and Clark	21	....	....	18	.....	.....	5	g13	.....	2	38	59
Madison	14	....	1	21	1	.....	c21	dh6	.....	1	50	65
Meagher, Park and Ravalli	8	2	....	2	.....	1	.....	.....	.....	1	4	14
Missoula	11	1	....	....	.....	.....	.....	.....	3	1	4	16
Powell	26	....	1	....	.....	.....	5	i5	.....	.....	10	37
Silver Bow	2	....	....	1	2	51	9	gj5	11	1	80	82
Total	123	6	2	62	11	56	67	65	17	27	305	436

a 1 gold-silver-copper mine.
b 3 silver-copper-lead mines.
c 1 gold-copper mine.
d 1 gold-silver-copper-lead mine.
e 2 silver-copper-lead mines.
f 3 gold-silver-copper-lead mines.
g 1 gold-silver-copper-lead-zinc mine.
h 1 gold-silver-copper-zinc mine.
i 1 gold-silver-lead-zinc mine.
j 2 gold-silver-copper mines.

An analysis of the tonnage and values from the deep mines shows that for all metals the gain in value per ton was from $12.60 in 1906 to $12.85 in 1907, or 25 cents per ton in favor of the year 1907, in which the lower total tonnage was produced. It is curious to observe, however, that the average value in gold and silver was only increased from $2.18 per ton in 1906 to $2.19 in 1907. A prominent rise in these respects is noticeable in Cascade and Powell counties. In Beaverhead County there was a sharp decline in average value per ton of base metals. The heavy decreases in tonnage in various counties was somewhat offset by the increase in several thousand tons from Chouteau and Flathead, and Jefferson counties. Other comparisons of interest may be seen in the table below.

TONNAGE OF ORE SOLD OR TREATED, NUMBER OF MINES PRODUCING, AND AVERAGE VALUE PER TON OF ORES IN MONTANA IN 1906 AND 1907, BY COUNTIES.

County.	Short tons of ore sold or treated.			Mines producing (without placers).		Average value per ton		Average value per ton in gold and silver	
	1907.	Increase(+) or decrease(—)		1906.	1907.	1906.	1907.	1906.	1907.
Beaverhead	1,613	+	83	11	11	$67.18	$47.05	$26.99	$28.14
Broadwater	15,261	+	182	19	19	13.66	14.13	12.21	4.98
Cascade	3,897	—	4,496	14	17	28.19	41.28	24.31	36.44
Chouteau and Flathead	50,050	+	5,047	3	2	6.30	5.60	6.29	5.60
Deer Lodge	7,662	—	9,604	3	9	6.47	9.55	4.88	9.29
Fergus	162,717	—	65,717	6	6	4.52	4.00	4.50	3.98
Granite	16,652	+	1,693	24	21	25.12	22.33	23.18	21.57
Jefferson	41,829	+	21,198	50	34	21.89	22.77	17.27	19.84
Lewis and Clark	95,277	+	1,160	43	38	6.55	7.18	6.14	6.56
Madison	11,818	—	8,679	60	50	19.04	20.67	17.00	19.69
Meagher, Park and Ravalli	1,814	+	896	3	4	12.07	22.18	8.74	13.88
Missoula	609	+	200	3	4	35.26	36.21	8.16	7.12
Powell	3,951	—	5,176	8	10	8.86	25.59	7.58	23.32
Silver Bow	3,735,346	—	1,283,888	60	80	12.91	13.24	1.68	1.51
Total	*4,148,496	—	1,349,475	308	305	12.60	12.85	2.18	2.19

* Sanders county reported production in 1906, but not in 1907; its items are omitted from this table, but its tonnage for 1906 is included in the total.

It may be seen from the table following that while the lead ores are richest in gold and silver their tonnage is lowest, and that the reverse is true of the copper ores. This table shows further that siliceous ores were reported from all counties except Missoula.

SUBDIVISION OF TONNAGE OF ORE SOLD OR TREATED IN MONTANA IN 1907, BY COUNTIES, IN SHORT TONS.

County.	Siliceous ores.	Copper ores.	Lead ores.	Mixed, chiefly copper-lead-zinc ores.	Total.
Beaverhead	890	552	181	.....	1,613
Broadwater	418	13,688	1,155	.....	15,261
Cascade	2,123	.....	1,774	.....	3,897
Chouteau and Flathead	50,050	.....	.....	.....	50,050
Deer Lodge	7,637	.....	25	.....	7,662
Fergus	162,587	.....	130	.....	162,717
Granite	15,742	401	509	.....	16,652
Jefferson	37,427	1,625	2,777	.....	41,829
Lewis and Clark	89,460	28	5,775	14	95,277
Madison	7,126	8	155	4,529	11,818
Meagher, Park and Ravalli	1,512	102	200	.....	1,814
Missoula	.....	594	15	.....	609
Powell	3,098	.....	853	.....	3,951
Silver Bow	8,180	3,702,602	812	23,752	3,735,346
Total	386,240	3,719,600	14,361	28,295	4,148,496
Decrease	94,603	1,244,156	6,373	4,343	1,349,475
Average value per ton in gold and silver	$8.24	$1.43	$24.40	$6.69	$2.19

A division of the total tonnage of the State into ore to gold and silver mills, ore to cencentrators (with cencentrates produced), crude ore direct to smelters, and old tailings treated, together with the value of gold and the fine ounces of silver from each class of ore, is shown in the table following:

TONNAGE OF MILLING AND SMELTING ORE AND CONCENTRATES, WITH VALUE AND QUANTITY OF SILVER CONTAINED IN BULLION, PRODUCED IN MONTANA IN 1907, BY COUNTIES.

County.	Ore to gold and silver mills			Ore to concentrating mills.	Concentrates produced.		
	Quantity.	Gold in bullion.	Silver in bullion.		Quantity.	Gold.	Silver.
	Short tons		Fine ounces.	Short tons	Short tons		Fine ounces
Beaverhead	91	$ 99	77	.....	.....	.....	.....
Broadwater	120	1,180	10	9,342	977	.....	.....
Cascade	.....	.....	.....	.....	.....	.....	.....
Chouteau and Flathead	50,050	267,675	16,835	.....	.....	.....	.....
Deer Lodge	4,642	39,032	695	.....	.....	.....	.....
Fergus	160,586	640,280	2,719	2,000	2	$4,675	35
Granite	125	2,907	43	1,028	114	1,210	20,475
Jefferson	7	32	334	13,000	1,114	11,124	130,688
Lewis and Clark	45,519	347,312	6,978	8,597	860	24,861	3,484
Madison	3,321	36,491	946	5,360	637	37,601	14,341
Meagher, Park and Ravalli	.....	.....	.....	.....	.....	.....	.....
Missoula	.....	.....	.....	.....	.....	.....	.....
Powell	350	36,176	400	1,450	160	4,882	3,290
Silver Bow	.....	.....	.....	3,334,639	1,229,438	423,164	5,531,558
Total	264,811	1,371,184	29,037	3,375,416	1,233,302	507,517	5,703,871
Per ton	.....	5.18	.11	.....	.....	.41	4.62

County.	Crude ore to smelter.			Old tailings treated.	
	Quantity.	Gold.	Silver.	Quantity.	Value in gold and silver.
	Short tons		Fine ounces	Short tons	
Beaverhead	1,522	$ 785	59,699	.....	$.....
Broadwater	5,744	66,969	10,877	55	665
Cascade	3,519	11,906	191,299	378	3,844
Chouteau and Flathead	50	1,605	.....	.....	.....
Deer Lodge	1,349	20,693	349	1,671	10,762
Fergus	130	76	655	1	881
Granite	15,499	54,248	435,440	.....	.....
Jefferson	28,821	306,827	644,114	.....	.....
Lewis and Clark	7,195	86,805	105,928	33,966	89,655
Madison	3,137	111,046	56,101	.....	.....
Meagher, Park and Ravalli	314	172	6,247	.....	.....
Missoula	609	357	6,027	.....	.....
Powell	1,151	37,658	16,565	.....	.....
Silver Bow	327,526	264,371	1,911,146	45,182	57,956
Total	396,566	963,518	3,444,447	81,253	163,763
Per ton	.....	2.43	8.69	.....	2.01

REVIEW BY INDIVIDUAL COUNTIES.

Beaverhead County.

PRODUCTION OF METALS AND THEIR ORES IN BEAVERHEAD COUNTY IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	107.39	$2,220	258.95	$5,353	+ 151.56	+ $3,133
Silver .....fine ounces	58,561	39,236	67,456	44,521	+ 8,895	+ 5,285
Copper .....pounds	246,841	47,640	129,195	25,839	— 117,646	— 21,801
Lead .....pounds	243,022	13,852	88,239	4,677	— 154,783	— 9,175
Total value	.....	102,948	.....	80,390	.....	— 22,558
Ore output..short tons	1,530	*67.18	1,613	*47.05	+ 83	— *20.13

* Value per ton, placer product excluded.

Beaverhead County includes some of the districts which have recently enjoyed a revival of industry in gold and silver mining. The French Brothers have reported a new mine, the Summer Day, in the Argenta district; the old Kent mine in the Blue Wing district has taken on a new lease of life; the Indian Queen mine, of the Utopia district, still continues operations under bond. The Silver Fissure mine, one of the oldest properties in the county, has been equipped with a new smelting plant of 4 blast furnaces, which will be able to handle its own and some custom ores. The ore from this mine is extracted by tunnels. The New Departure mine still remains one of the heaviest shippers of the county. In this county is the site of the first dredges of Montana, but placer mining is now confined to a few gulches worked mainly by sluicing. These workings in 1906 showed a production of only $176; in 1907 they yielded gold and silver valued at $4,483.

Broadwater County.

PRODUCTION OF METALS AND THEIR ORES IN BROADWATER COUNTY IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	7,581.48	$156,723	3,611.68	$74,660	— 3,969.80	— $82,063
Silver .....fine ounces	47,853	32,061	11,192	7,387	— 36,661	— 24,674
Copper .....pounds	7,096	1,370	660,152	132,030	+ 653,056	+ 130,660
Lead .....pounds	359,889	20,514	143,570	7,609	— 216,319	— 12,905
Total value	.....	210,668	.....	221,686	.....	+ 11,018
Ore output..short tons	15,119	*13.66	15,261	*14.13	+ 142	+ *0.47

* Value per ton, placer product excluded.

A noticeable feature in the mineral production of Broadwater County is the increase in copper from 7,096 pounds in 1906 to 660,152 pounds in 1907. This was due to the energetic working of two or three mines not hitherto well managed. The total tonnage of ores was increased a little,

the value per ton being also enhanced. Considerable development work was spent on the Argo, Park New Era, Uffle, Blacker, and Broadwater mines. While the number of operating deep mines remained the same, their total value increased $11,017, or nearly 5 per cent.

This county is developing its placer resources very rapidly, the number of placer producers having more than doubled during 1907. A dredge is projected for Confederate Gulch, formerly a famous sluicing placer ground, near Diamond City; still another dredge owned by the same company will be put on the bench gravel of the Missouri River, just below Toston.

Beaver Creek District.—This district ranked third in tonnage from Broadwater county in 1907, its 857 tons carrying values chiefly in gold, with paying quantities in silver and lead. The Custer mine shipped largely to the East Helena smelters.

Hellgate District.—Three-fifths of the tonnage of the county in 1907 came from Hellgate district. The Argo mine was the heaviest shipper, sending both crude ore and concentrates to the East Helena and the Washoe smelters. This is one of the few copper mines of the eastern mining region of Motana.

Park District.—The Park district is the second in importance of the county, and produces the same metals—gold, silver, copper, and lead. The values in the Park district, however, come principally from gold, and average one-third higher per ton than those of the Hellgate district. The tonnage is only one-half of that of the Hellgate district. The Blacker mine was under lease to the East Helena smelters during 1907, as was also the Keating, of the Cedar Plains district. Other mines of important production for the year include the Park New Era and the John L. The number of mines reporting in the district has increased from 3 in 1906 to 10 in 1907.

Cascade County.

PRODUCTION OF METALS AND THEIR ORES IN CASCADE COUNTY IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	324.46	$6,707	575.95	$11,906	+ 251.49	+ $5,199
Silver .....fine ounces	294,556	197,352	197,124	130,102	— 97,432	— 67,250
Copper .....pounds	360	70	.....	.....	— 360	— 70
Lead .....pounds	569,046	32,436	355,720	18,853	— 213,326	— 13,583
Total value	.....	236,565	.....	160,861	.....	— 75,704
Ore output..short tons	8,393	*28.19	3,897	*41.28	— 4,496	+ *13.09

* Value per ton.

The mining industry of Cascade county is now limited to the valley of Belt Creek, in the Little Belt Mountains, and centers about the town of Neihart. The yield from this region is chiefly in silver and lead, but on Snow Creek, over the range to the east, gold is present in recoverable quantities. Development has been carried on recently in the old Johannesburg camp, 5 miles below Neihart, where also gold values are more prominent.

Montana District.—The region about Neihart produced a low tonnage during 1907, partly because of the low price of silver, and also on account of destructive washouts on the Neihart branch of the Great Northern Railway. The latter circumstance cut off shipping facilities for a great part of the summer season. The decrease of more than one-half the tonnage from the record of 1906 was accompanied by an increase of nearly one-half in value per ton. More gold was produced in 1907 than in 1906 in this district, but the quantities of silver and lead decreased in their respective units of weight about equally.

The Florence mine, the Galt mine, and the Broadwater mines were worked in 1907 by lease. The Broken Hill mine is worked through the shaft of the Broadwater group. The mines of the district generally are worked by adit tunnels. Development to the extent of from 100 feet to 200 feet was carried on in the Silver Belt, Big Seven, Ripple, Lizzie, and others. Most of the ores go to East Helena, but some producers ship to the United States smelters at Salt Lake, Utah.

Chouteau County.

Little Rockies District.—The one mining region of Chouteau county yields only gold and silver. It is known as the Little Rockies district, and lies near Zortman, some 55 miles south of the nearest station, Malta, on the Great Northern Railway. Since the ores yield only gold and silver, however, and are amenable to the cyanide treatment, they are profitably mined and treated even in this isolated location. The ore bodies are (1) zones of fractured porphyry replaced and cemented by quartz and pyrite, and (2) replacement deposits in limestone near intruding porphyry. Operations are conducted altogether by tunneling. The Alabama mine and the Fergus mine have 1,100 feet and 1,200 feet of development, respectively, while the Alder Gulch and the Ruby Gulch each have 900 feet. The Alder Gulch was closed during the year 1907, but began producing again early in 1908. In the meantime its 100-ton cyanide mill has been strengthened and improved. The ore is extracted partly by open cuts and partly by tunnels, going part way by train and part way by team to the mill. This mine and the Ruby Gulch, which has been in constant operation, are the principal producers of the district. The cyanide mill on the latter property has been enlarged to accommodate the increasing output of ore. Still further arrangements are being made to work by open cuts certain high-grade surface deposits said to have been discovered on the claims of the company. The values in the district average from $5 to $7 per ton for all mines, with three-fourths of the total returns coming from the gold.

Deer Lodge County.

The number of producing deep mines in this county increased from 3 in 1906 to 9 in 1907, and during the same time the ore treated increased 9,604 tons, or 60 per cent. The average value per ton shows a marked increase for 1907, but suffices to bring the total value of all metals to only 65 per cent of their aggregate for 1906. The placer production of the

county was nearly doubled, while the number of workings increased from 1 in 1906 to 5 in 1907. Further increase is probable for 1908, since a dredge is being installed on Cottonwood Creek.

Georgetown District.—This region, lying to the west of Anaconda, is the most important of the county. Besides the Cable, Gold Coin and Southern Cross mines of former years, the Orphan Boy and the White Syndicate mines were operated in 1907. The former has 3 vertical shafts of about 100 feet each, with about 200 feet of levels, and is equipped with a 30-ton steam stamp mill with plate amalgamation and cyanide tanks. The Cable and the Gold Coin mines have equipments of capacities equal to that of the Orphan Boy, while at the Southern Cross a 100-ton cyanide plant with the Moore slime process has been installed during the year 1907. Some of the ore from the Cable mine averages about 4 per cent copper, which is recovered at the Washoe smelters. This mine has more than 7,000 feet of workings. The copper discoveries in it are of comparatively recent occurrence.

Heber District.—The Olive May and the Spain quartz mines were light shippers from the Heber district. This region and the Gold Creek district yielded fair returns from placers.

Fergus County.

PRODUCTION OF METALS AND THEIR ORES IN FERGUS COUNTY IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	49,577.89	$1,024,866	31,316.48	$647,369	— 18,261.41	— $377,497
Silver .....fine ounces	2,997	2,008	3,630	2,396	+ 633	+ 388
Copper .....pounds	3,318	641	1,219	244	— 2,099	— 397
Lead .....pounds	100,914	5,752	52,519	2,783	— 48,395	— 2,969
Total value	.....	1,033,267	.....	652,792	.....	— 380,475
Ore output..short tons	228,434	*4.52	162,717	*4.00	65,717	— *0.52

* Value per ton.

The returns for 1907 show a decrease of $380,475 in the total output of metals from Fergus county. This represents a decrease of nearly 37 per cent from the yield of 1906. More than 99 per cent of the values are won from siliceous ores and occur in gold and silver. Two of the 6 producers reported small shipments of lead ore carrying some copper. The ores occur generally in the laccolithic contacts of the Judith and the North Moccasin Mountains, and may be mined largely by open cuts. Besides the reduction in total value there were also reductions in tonnage and in average value per ton.

North Moccasin District.—An important affiliation was perfected in the North Moccasin district in 1907 between the owners of the North Moccasin and the Kendall mines. The electric plant and the 500-ton cyanide mill of the Kendall Company will be used to tram and treat the ores of the North Moccasin group. One of the companies has large bodies of low-

grade ore, while the other has in sight a limited quantity of high grade. The two ores will be mixed for treatment, thus prolonging the life of both mines. A still further consolidation is to be effected between these two companies. In this district, also, the Barnes-King mine has undergone a change in ownership and administration in 1907, which constituted one of the most regrettable occurrences in the history of mining of Montana. The Barnes-King Development Company was formed and successfully floated, with heavy capitalization, upon the assertion that large ore reserves were available in the mine. When work was begun, it was found that but a small quantity of ore was in sight. It is still more regrettable that the persons responsible for such misrepresentation have not been found and properly punished. The Kendall and the Barnes-King mines have been easily the heaviest producers of Fergus county for the year 1907.

Warm Springs District.—This district covers a part of the Judith Mountains, near Lewistown. The Gold Reef mines were leased during 1907. The ore from the open cuts was taken through the 320-ton cyanide plant. Other producers for the year were the Liberty, the Ruby Gulch, and the War Eagle, all of which shipped to East Helena.

Flathead County.

Libby District.—Of the $6,963 produced in Flathead county, $5,358 were from placer workings. Among the deep mines the Snowshoe is still inactive, but the Shaughnessy Hill shipped ore to Everett, Wash. The total production showed an increase of $255. The Cabinet district in this county shows no active mines.

Granite County.

PRODUCTION OF METALS AND THEIR ORES IN GRANITE COUNTY IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	6,444.06	$133,211	3,335.51	$68,951	— 3,108.55	— $64,260
Silver .....fine ounces	319,700	214,199	456,096	301,023	+ 136,396	+ 86,824
Copper .....pounds	63,626	12,280	44,311	8,862	— 19,315	— 3,418
Lead .....pounds	294,517	16,786	71,237	3,776	— 223,280	— 13,010
Total value	.....	376,476	.....	382,612	.....	+ 6,136
Ore output..short tons	14,959	*25.12	16,652	*22.33	+ 1,693	— *2.79

* Value per ton, placer product excluded.

Reports from the deep mines of Granite county show an increase from 14,959 tons in 1906 to 16,652 tons in 1907, and a corresponding increase in total values from $376,476 to $382,612. Although this margin of increase is less than 2 per cent, it is noteworthy in that it occurs altogether in silver. In the production of this metal Granite ranks third in the State; Silver Bow and Jefferson counties stand first and second, respectively. The decrease in average value per ton of all ores is probably the result of the enlarged tonnage. Renewed activity in the placer fields raised their total annual returns from $642 to $10,676.

First Chance District.—The output of ores and recoveries of values from this gold-silver area compare very unfavorably with those of former years. From 3,250 tons, having a value of $108,255, in 1906 the output fell to 671 tons, having a value of $20,474, in 1907. The operating mines include the Cascade, the First Chance group, and the Shamrock. In the Cascade mine and the First Chance group, respectively, 800 feet and 300 feet of development work was accomplished in 1907. The ores from the latter are worked in a 10-ton stamp mill, with plate amalagamation and concentration.

Flint Creek District.—The twelve producing mines of the Flint Creek district at Philipsburg have made a very favorable showing in all metals except lead. The production of 7,849 tons of ore in 1906 was nearly doubled in 1907, and the total value of $237,669 recovered in the former period rose nearly 44 per cent in the latter. A marked rise in silver output occurred in this district—the district total was 306,896 fine ounces in 1906 and became 448,850 fine ounces in 1907. The gold and copper outputs were augmented to a less extent. The Good Hope, Granite Bimetallic, Trout, Jefferson and Hobo mines were steady shippers to the lead smelters at East Helena. The Hope mine shaft was sunk 250 feet during the year 1907, and the Jefferson tunnel lengthened 150 feet. At the Trout mine a 10-ton 1,000-foot gasoline hoist was installed, though comparatively little dead work was done. The Hobo group has some 2,000 feet of tunnels.

PRODUCTION OF METALS AND THEIR ORES IN THE FLINT CREEK DISTRICT, GRANITE COUNTY, IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+) or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	1,011.54	$20,910	1,713.83	$35,428	+ 702.29	+ $14,518
Silver .....fine ounces	306,896	205,619	448,850	296,241	+ 141,954	+ 90,622
Copper .....pounds	7,197	1,389	38,311	7,662	+ 31,114	+ 6,273
Lead .....pounds	171,072	9,751	43,247	2,292	— 127,825	— 7,459
Total value	.....	237,669	.....	341,623	.....	+ 103,954
Ore output..short tons	7,849	*30.25	15,665	*21.81	+ 7,816	— *8.44

* Value per ton.

Gold Creek District.—Considerable placer mining in a small way was done along Gold Creek. No producing deep mines reported from that region. An electric power plant was projected for the Tussel and the Gold Creek placer mines jointly.

South Boulder District.—The Brooklyn, Gold Reef, Nonpareil, and Royal Gold reported from the South Boulder district, near Princeton. Much of the Gold Reef ore is free milling and is treated on the property in either a 35-ton free milling plant or a 10-ton cyanide mill. The Nonpareil is worked through a 300-foot shaft.

Jefferson County.

PRODUCTION OF METALS AND THEIR ORES IN JEFERSON COUNTY IN 1906 AND 1907.

Metal.	1906.		1907.		Increase (+) or decrease (—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	8,712.51	$180,104	15,525.09	$320,932	+ 6,812.58	+ $140,828
Silver ....fine ounces	268,807	180,101	775,159	511,605	+ 506,352	+ 331,504
Copper .....pounds	255,428	49,298	238,822	47,764	— 16,606	— 1,534
Lead .....pounds	811,616	46,262	1,414,952	74,992	+ 603,336	+ 28,730
Total value	.....	455,765	.....	955,293	.....	+ 499,528
Ore output..short tons	20,631	*21.89	41,829	*22.77	+ 21,198	+ *0.88

* Value per ton, placer product exc luded.

Jefferson county ranks first in per cent of gain in value of metals produced in 1907. While the yield came from fewer mines by one-third than in 1906, and was detracted from by a loss in copper values, it was sufficiently great to raise the county from fourth to second in rank of total value of production. The 41,829 tons, valued at $955,293, represent a gain of nearly 103 per cent in tonnage and nearly 110 per cent in value of metals. Here may be noticed an increase in tonnage, accompanied by an increase in value per ton. In value of placer production, the county total of $4,089 for 1906 fell to $2,966 for 1907.

Boulder District.—The Baltimore mine at the town of Boulder is worked by a vertical shaft 140 feet deep and about 2,000 feet of levels. Its ore carries copper in fair quantity as well as gold, silver, and lead.

Cataract District.—In the vicinity of Basin, the Columbia, Apollo, and New Buckley mines were among those which treated no ore during 1907. The highest tonnage came from the Comet, owned by the Montana Consolidated Copper Company; the Ruby, by P. F. Dowling, and the Hattie Ferguson, by the Pennsylvania and Montana Mining Company. The yield from the Ruby mine was chiefly gold; with one exception the other mines exceed in silver. In this district the Comet and Grey Eagle mines have recently been purchased by the Montana Consolidated Copper Company. The Ruby was also bought by lease and bond during 1907 by P. F. Dowling. It has a 10-stamp mill with amalgamation and concentration. Nearly all the veins in the district are tapped by adit tunnels; the Comet shaft, an 800-foot vertical, and the Hattie Ferguson, a 100-foot vertical, are notable exceptions. Many of the mines contain much zinc, and it is reported that the old plant of the Basin Reduction Company will be refitted for experimental runs for the recovery of that metal. Among the mines at which development work was pushed were the Eva May, where the vertical shaft was sunk 600 feet, thus doubling its depth; and the Comet, where the shaft was deepened 600 feet.

PRODUCTION OF METALS AND THEIR ORES IN THE CATARACT DISTRICT, JEFFERSON COUNTY, IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	2,152.13	$44,489	5,090.26	$105,225	+ 2,938.13	+ $60,736
Silver .....fine ounces	107,697	72,157	98,814	65,217	— 8,883	— 6,940
Copper .....pounds	25,721	6,893	10,457	2,091	— 25,264	— 4,802
Lead .....pounds	331,497	18,895	392,702	20,813	+ 61,305	+ 1,918
Total value	.....	142,434	.....	193,346	.....	+ 50,912
Ore output..short tons	5,502	*25.89	3,312	*58.38	— 2,190	+ *32.49

* Value per ton.

Colorado District.—In the returns from the Colorado district, at Wickes, a slight improvement for the year is noticeable in the yield of silver and copper; the gold and lead returns, however, have diminished to the extent of lowering the total values $2,006 below those of 1906. The ores mined were 477 tons less than in 1906, but they increased in average value per ton from $25.15 to $30.37. The Bertha mine shipped a silver-copper ore during 1907, and machinery was being installed at the mine in the latter part of that period. The Alta mine is an intermittent producer. The reduction plant on the property is little used. The Blue Bird mine shipped regularly to East Helena and Washoe. None of these producers are worked by shafts. The Atlas shaft was sunk 150 feet deeper, the Bertha tunnel lengthened 600 feet, and the Blue Bird tunnel 200 feet during 1907.

PRODUCTION OF METALS AND THEIR ORES IN THE COLORADO DISTRICT, JEFFERSON COUNTY, IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	303.86	$6,281	195.96	$4,051	— 107.90	— $2,230
Silver .. ..fine ounces	23,066	15,453	25,029	16,519	+ 1,963	+ 1,066
Copper .....pounds	168,374	32,496	167,496	33,499	— 878	+ 1,003
Lead ....pounds	104,572	5,962	77,688	4,117	— 26,884	— 1,845
Total value	.....	60,192	.....	58,196	.....	— 2,006
Ore output..short tons	2,393	*25.15	1,916	*30.37	— 477	+ *5.22

* Value per ton.

Elkhorn District.—It is in the Elkhorn camp that the decided rise in values for Jefferson county occur. The total number of ounces of silver for 1907 was 529,362, as against 39,788 in 1906, and the quantity of lead recovered in 1907 was 623,346 pounds, as against 68,313 pounds for 1906. The gold values dropped noticeably, and no copper was reported. At the Golden Curry mine a 100-ton cyanide plant was in course of construction in 1907. The ore shows by assays an excess of iron and yields gold, and it has been shipped to the East Helena smelters. The Rose Gold Mining and Milling Company also shipped gold-silver ore to these smelters. The Elkhorn mine, of the Elkhorn Silver Mining Company, was completely unwatered during 1907. The gold-silver ore from this mine goes through

a 110-ton concentrator, and thence with the crude lead-silver ore to the lead smelters at East Helena. Other producing mines were the Center Reef, Golden Moss, Peacock, and Keene. In the way of development the Elkhorn added 400 feet of levels, and the Golden Curry 270 feet of tunnels in 1907.

PRODUCTION OF METALS AND THEIR ORES IN THE ELKHORN DISTRICT, JEFFERSON COUNTY, IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	3,950.22	$81,657	3,433.13	$70,969	+ 517.09	— $10,688
Silver .....fine ounces	39,788	26,659	529,362	349,379	+ 489,574	+ 322,720
Copper .....pounds	27,158	5,242	.....	.....	— 27,158	— 5,242
Lead .....pounds	68,313	3,895	623,346	33,037	+ 555,033	+ 29,142
Total value	.....	117,453	.....	453,385	.....	+ 335,932
Ore output..short tons	8,964	*13.10	29,553	*15.34	+ 20,589	+ *2.24

* Value per ton.

Lump Gulch District.—Both the Little Nell and the Liverpool mines shipped silver-lead ores from Clancy, in this district, in 1907. The Little Nell property is developed by a 500-foot vertical shaft, 400 feet having been sunk during the year just mentioned. The Liverpool is well developed, but not worked steadily.

Warm Spring District.—The Bell, Carbonate Chief, and Mocking Bird mines operated extensively in the Warm Spring district, near Clancy. The 41,829 tons of ore mined produced a gross value of $952,327, mainly in gold and silver, though copper and lead were recovered. In 1906 the yield was 1,237 tons, with a metallic value of $47,756. It will be observed that the value for 1907 was increased nearly twentyfold. In the Bell mine the tunnel was extended 360 feet; in the Carbonate Chief the tunnel was driven 200 feet; and in the Mocking Bird, a new producer, the vertical shaft was sunk 250 feet.

Lewis and Clark County.

PRODUCTION OF METALS AND THEIR ORES IN LEWIS AND CLARK COUNTY IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Placers.						
Gold .....fine ounces	529.92	$10.954	1,237.72	$25,586	+ 707.80	+ $14,632
Silver ....fine ounces	86	58	438	289	+ 352	+ 231
Deep Mines.						
Gold .....fine ounces	25,327.03	523,556	24,986.80	516,523	— 340.23	— 7,033
Silver .....fine ounces	102,603	68,744	165,038	108,925	+ 62,435	+ 40,181
Copper .....pounds	47,537	9,173	27,367	5,473	— 20,170	— 3,700
Lead .....pounds	522,248	29,768	1,000,337	53,018	+ 478,089	+ 23,250
Total value	.....	642,253	.....	709,814	.....	+ 67,561
Ore output..short tons	96,437	*6.55	95,277	*7.18	— 1,160	+ *0.63

* Value per ton, placer product excluded.

The number of operating deep mines of Lewis and Clark county was fewer in 1906 than in 1907. While the yield in ore dropped from 96,437 tons in 1906 to 95,277 tons in 1907, the average value increased to such an extent that the total value of metals produced rose from $642,253 to $709,814. This was to be principally credited to silver-lead ores. The placer production of $25,875 in 1907 compares favorably with that of $11,012 for 1906. In Lewis and Clark county 33,966 tons of old tailings were treated; in this respect the county stands second only to Silver Bow, whose 45,182 tons are chiefly smelter cleanings..

Bald Butte District.—The Bald Butte, Mammoth, and Strawberry mines operated in this region. In the Bald Butte there are 33,000 feet of workings; 400 feet were added in 1907. Part of the ore is amalgamated at the 40-stamp mill and the remainder is shipped as concentrates to lead smelters.

Ottawa District.—The Ottawa district, at Marysville, was the most productive region of Lewis and Clark county in 1907. The Drum-Lummon mine, of the Montana Mining Company (Limited) worked gold-silver ore throughout the year. The ore is crushed in the 40-stamp mill and the values recovered either on the plates or from the precipitates of the 400-ton cyanide plant. The North Star mine also milled a gold-silver ore. During the year the shaft on this property was sunk 200 feet deeper. The table following compares the returns from this district for the two years indicated.

PRODUCTION OF METALS AND THEIR ORES IN THE OTTAWA DISTRICT, LEWIS AND CLARK COUNTY, IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	3,048.25	$63,013	3,381.46	$69,901	+ 333.21	+ $6,888
Silver .....fine ounces	30,717	20,579	53,341	35,205	+ 22,624	+ 14,626
Copper .....pounds	10,008	1,932	19,240	3,848	+ 9,232	+ 1,916
Lead .....pounds	9,064	517	41,695	2,210	+ 32,631	+ 1,693
Total value	.....	86,041	.....	111,164	.....	+ 25,123
Ore output..short tons	22,456	*3.83	34,999	*3.18	+ 12,543	— *.65

* Value per ton.

Poorman District.—Recoveries were made from the dump of the Gloster mine. The Cannon Brothers worked the Twentieth Century mine at Lincoln. The ore is hoisted 100 feet by incline shaft and treated in a 5-stamp amalgamation mill without concentration.

Spring Hill District.—In 1907 this district yielded a total of 11,179 tons of ore, which gave a gross value of $56,283. In 1906 the tonnage was 22,465 and the value $65,286. These data indicate a marked improvement in ore values. The returns are almost exclusively in gold and silver. The Howard and Helena mines, however, shipped gold-silver-lead ores to the East Helena smelters. In 1907 the Spring Hill mine installed a 70-ton cyanide plant, with which to treat the tailings from the old stamp mill as well as the ore from the mine. The property is developed by an adit tunnel of 850 feet, with 1,000 feet of other levels, 400 feet of which were added in 1907. The

Helena mine was also developed further by deepening the shaft 200 feet. Among the placer properties the Eglanol, at Lincoln, extended a drift of 600 feet into the gravel. The Spring Hill district is often called the Helena district. Last Chance Gulch, once a famous placer ground, is now a part of the business district of Helena.

Stemple District.—The Gould Mines Company operated a 30-stamp amalgamation mill without concentration. The company owns also a 100-ton cyanide plant. Mining is conducted by means of a 600-foot vertical shaft and 6 levels, in all about 3,500 feet. The Empire mine of the Gold Cord Mining Company reported no production for 1907. This company's equipment includes a 60-stamp mill and a 500-ton cyanide plant.

Unionville District.—In the latter part of 1907 the Whitlatch mine was under lease and bond to the Spring Hill Mining Company. The concentrates from the 20-stamp mill are shipped to the East Helena smelters, while the bullion from the plates goes to the United States assay office at Helena. The Whitlatch shaft has been deepened to 500 feet.

Vaughan District.—The lead mines of the Vaughn district, at Rimini, produced 5,595 tons and yielded a value of $173,648 in gold, silver and lead. The Valley Forge mine is worked through tunnels aggregating more than 2,200 feet in length. The mine shipped regularly to East Helena during the year 1907. Other shipments are reported from the Matt Carrol and Bassett mines.

Madison County.

PRODUCTION OF METALS AND THEIR ORES IN MADISON COUNTY IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+) or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Placers.						
Gold .....fine ounces	18,916.74	$391,044	9,462.59	$195,699	— 9,454.15	— $195,435
Silver .....fine ounces	3,020	2,023	1,569	1,035	— 1,451	— 988
Deep Mines.						
Gold .....fine ounces	13,142.24	271,674	8,953.05	185,076	— 4,189.19	— 86,598
Silver .....fine ounces	114,456	76,685	72,263	47,694	— 42,193	— 28,991
Copper .....pounds	80,633	15,562	33,854	6,771	— 46,779	— 8,791
Lead .....pounds	461,986	26,333	90,037	4,772	— 371,949	— 21,561
Total value	.....	783,321	.....	440,957	.....	— 342,364
Ore output..short tons	20,497	*19.04	11,818	*20.67	— 8,679	+ *1.63

* Value per ton, placer product excluded.

Conditions for normal production of metals in Madison county in 1907 were unfavorable. Few of the mines have shipping contracts with smelters, so that when the smelters declined to take custom ores in the fall of the year many were forced to suspend. It seems, moreover, that not enough gold mills were kept in operation to make a fair showing in values from the siliceous ores. From 60 deep mines in 1906 the number fell to 50 in 1907; there was a decrease from 20,497 tons in 1906 to 11,818 tons in 1907; and the values for the two periods, respectively, were $390,254 and $244,313.

Thus the number of tons decreased 8,679 and their gross yield $145,941. The only increase in any direction was in average value per ton, which was $19.04 in 1906 to $20.67 in 1907.

In placer production also there seems to be more development than results. In the rank of placer producers, however, this county still leads. In 1907 the total value of its placer gold and silver was $196,644, or 56 per cent of $350,586, the total placer value for Montana. Two electric dredges were in course of construction by the Conrey Placer Mining Company on the flats of lower Alder Gulch and two others were projected by this company. It is estimated that there is enough virgin ground on the claims of this company to occupy five dredges for fifteen years. The dredges recently built are of the Marion type, having a closely connected bucket chain and 10-ton buckets. The old dredge of the company is of the open-chain type, with 14-ton buckets. The gravel bed is from 30 feet to 56 feet deep, with the best values about six feet above the soft, plastic bedrock. In the upper portion of the gulch the Alder Gulch Mining Company operates by means of a ground sluice and flumes. An average of all estimates gives $125,000,000 as the values washed out of Alder Gulch since its first claims were staked. This places it in first rank among the placer gulches of the world. At one time five organized districts were maintained within 10 miles of its length.

Brown's Gulch District.—The Easton and Pacific group is the chief operator in Brown's Gulch. During 1907 a power dam was in course of construction near these mines. The project is intended not only to furnish power for mining purposes, but also for electric facilities for Virginia City, 12 miles away. Concentrates from the Easton mine were shipped to East Helena.

Fairweather District.—The Alameda, Elfleda and Prospect mines were the chief operators. Besides the precious metals the Alameda ores yield a small quantity of lead.

Lower Hot Springs District.—Shipments were made from the Boaz, the Red Bluff, and the Thorn Fraction; the last is a new mine. Considerable development work was also done on the Hecla mine.

Mineral Hill District.—The Garnet Gold Mining Company milled and shipped steadily. Its crude ore and concentrates yield values in copper; zinc is also present in the ore. The company did 300 feet of development work, which makes a total of 1,000 feet of shaft and 5,000 feet of levels. Ore was shipped to East Helena from the Oregon mine and from the Boss Tweed. New claims reported are known as the Bozeman group. The Pony, Proctor Knot and Tesla mines were operated a few weeks of the year. The comparative tabulation below shows that the average value per ton was increased materially.

PRODUCTION OF METALS AND THEIR ORES IN THE MINERAL HILL DISTRICT, MADISON COUNTY, IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	4,008.37	$82,859	2,541.82	$52,544	— 1,466.55	— $30,315
Silver .....fine ounces	8,893	5,959	4,325	2,854	— 4,568	— 3,105
Copper .....pounds	50,383	9,724	28,590	5,718	— 21,793	— 4,006
Lead .....pounds	112,007	6,385	7,500	397	— 104,507	— 5,988
Total value	.....	104,927	.....	61,513	.....	— 43,414
Ore output..short tons	11,132	*9.42	4,924	*12.49	— 6,208	+ *3.07

* Value per ton.

Rabbit District.—At the Legal Tender ore was hoisted through the 115-foot incline shaft, and from the Eureka and the Clifton a few cars of ore were shipped. Development work was done at the Watseca.

Silver Star District.—For the Silver Star district the progress in production of gold is shown in the table below. The Broadway mines yielded several shipments of gold-silver-copper-lead ore. The mine is extensively developed by 950 feet of shafts and 1,100 feet of tunnels. The Greene-Campbell mine milled for part of the year. The company owns a 100-ton concentrator and a 25-ton Huntington mill, with plate amalgamation. Shortage of water prevented continuous running. The Hudson and Iron Rod group are worked by two incline shafts 360 feet deep. The 15-stamp mill on the property was not in use in 1907, but the ore was treated at East Helena.

PRODUCTION OF METALS AND THEIR ORES IN THE SILVER STAR DISTRICT, MADISON COUNTY, IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	1,668.11	$34,482	2,115.97	$43,741	+ 447.86	+ $9,259
Silver .....fine ounces	2,847	1,909	2,319	1,531	— 528	— 378
Copper .....pounds	22,733	4,387	4,237	848	— 18,496	— 3,539
Lead ....pounds	123,925	7,063	9,691	513	— 114,234	— 6,550
Total value	.....	47,841	.....	46,633	.....	— 1,208
Ore output..short tons	1,919	*24.93	2,307	*20.21	+ 388	— *4.72

* Value per ton.

Summit District.—The Kearsarge shaft was deepened 300 feet. Ore from the St. John mine was shipped to the Butte Reduction Works and to East Helena, and a few tons of gold-silver ore from the Oro Cache mine were also shipped to the latter plant.

Tidal Wave District.—A few mines in this district produced 184 tons of ore, which yielded gold, silver, and rather good values in lead.

Upper Hot Springs District.—The Revenue mine was worked by lease. The 75-ton cyanide mill with Cornish rolls, built mainly to work tailings, was not in operation. Siliceous ore from the Columbia and George Washington mines was shipped to East Helena.

Washington District.—The George McKee mine employs a 5-stamp amalgamation mill and a concentrator. Its concentrates are sent to the Washoe smelters. The Lehigh and Hornet mines were active in 1907. The reports show a fair yield for the year.

Whitehall District.—The five producing mines of the Whitehall district reported gross returns of $14,620, an increase of $487 over the values of 1906. The tonnage, however, was much greater in 1907, amounting to 2,175 tons as against 368 tons in 1906. The Colorado, Daisy Bell, Gold Hill, Mary Ingabar, and Mammoth mines reported production. At the Mammoth a 100-ton roller concentrating mill has been installed recently, and 400 feet of tunneling driven. The Gold Hill ore yields low values in lead besides precious metals.

Meagher County.

Silver-copper ore was shipped from Delphine in the Spring Creek district to smelters at Butte. A small placer yield came from Thompson Gulch. The total gross production for the county was $1,752 in 1906 and $9,186 in 1907.

Missoula County.

PRODUCTION OF METALS AND THEIR ORES IN MISSOULA COUNTY IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Placers.						
Gold .....fine ounces	2,256.23	$46,640	2,010.85	$41,568	— 245.38	— $5,072
Silver .....fine ounces	85	57	89	59	+ 4	+ 2
Deep Mines.						
Gold .....fine ounces	80.16	1,657	17.27	357	— 62.89	— 1,300
Silver .....fine ounces	2,510	1,682	6,027	3,978	+ 3,517	+ 2,296
Copper .....pounds	57,436	11,085	86,200	17,240	+ 28,764	+ 6,155
Lead .....pounds	.....	.....	9,000	477	+ 9,000	+ 477
Total value	.....	61,121	.....	63,679	.....	+ 2,558
Out output..short tons	409	*35.26	609	*36.21	+ 200	+ *.95

* Value per ton, placer product excluded.

Missoula county tabulations showed an increase in all respects except in the production of gold. In this connection it may be remarked, however, that the placer gold from this county is commonly more than 950 fine, which is the highest average fineness in the State.

The number of tons of ore treated in 1906 was 409, and the total values reached $14,424; for 1907 the tonnage was 609 with a gross value of $22,052. The value per ton was thus increased from average $35.26 in 1906 to $36.21 in 1907.

St. Regis District.—The Denver and Rock Island Development Company reports a new mine from near De Borgia. The Iron Mountain Tunnel Company finished the last 1,000 feet of its 4,000-foot drainage tunnel, and will doubtless enter as a strong producer in 1908.

Wallace District.—The greater part of the production from Missoula county comes from the chalcopyrite copper ores of the Wallace district, near

Clinton. The Cape Nome Copper Company shipped to Tacoma, Wash., and to East Helena and Anaconda, Mont. The company also did 250 feet of development work. The Hidden Treasure mine now has 2,600 feet of tunnels. The mine was worked in part by lessees. The Amador smelter and electric tramway was sold to the Lacasse Brothers of Missoula. The Triangle Mining Company shipped several cars of copper ore and drove a 300-foot tunnel.

Park County.

The mining industry in Park county was more active in 1907 than in 1906. In 1907 the number of tons treated was 1,700, and the value won $31,890. In 1906 the quantity was 218 tons, and the value $7,316. No production was reported from the Crevasse district, but progress is recorded from the New World and Sheepeater districts. In the former district the Hudson and Boulder group is worked by 900 feet of tunnels on a limestone-igneous contact. In the Kimberly mine in the Sheepeater district, at Jardine, free gold in quartz and schist is found in the oxidized zone, and gold in arsenopyrite in quartz veins in slate in the sulphide zone. Several hundred tons of scheelite, or calcium tungstate, were shipped in 1907. In places the veins are definite, but in others they are so irregular and bunchy as to be masses rather than veins. The total length of the 17 tunnels in this mine aggregates more than five miles. The equipment consists of a 40-stamp plate-amalgamation mill and a 100-ton cyanide plant, with a Huntington mill for the preparation of the scheelite concentrates. In the Independence mine 800 feet of tunnels were driven and 300 feet in the Republic. Neither of these reported production.

Powell County.

PRODUCTION OF METALS AND THEIR ORES IN POWELL COUNTY IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+) or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Placers.						
Gold .....fine ounces	2,123.68	$43,900	1,181.61	$24,426	— 942.07	— $19,474
Silver .....fine ounces	260	174	160	106	— 100	— 68
Deep Mines.						
Gold .....fine ounces	2,402.06	49,655	3,807.93	78,717	+ 1,405.87	+ 29,062
Silver .....fine ounces	29,174	19,547	20,255	13,368	— 8,919	— 6,179
Copper .....pounds	7,555	1,458	1,397	279	— 6,158	— 1,179
Lead .....pounds	180,289	10,277	164,911	8,740	— 15,378	— 1,537
Total value	.....	125,011	.....	125,636	.....	+ 625
Ore output..short tons	9,127	*8.86	3,951	*25.59	— 5,176	+ *16.73

* Value per ton, placer product excluded.

In Powell county there were 3,951 tons of ore treated in 1907, a decrease of 6,176 tons as compared with the 9,127 tons treated in 1906. The total values, $101,104 for 1907 and $80,937 for 1906 from deep mines, taken with their respective totals of tonnage, show the remarkable rise in average value per ton from $8.86 in 1906 to $25.59 in 1907. This advance is due to

the high-grade ores encountered in a single mine in this county. The number of deep mines reporting production was 10 in 1907, against 8 in 1906. Some of the mines in this county yield fair assays of zinc.

Elliston District.—The Evening Star mine (formerly called the Big Dick mine) has been sold to the Butte and Elliston Mining Company. This mine has a 300-foot shaft and 800 feet of levels. It shipped highly siliceous ore carrying gold, silver and lead both to the East Helena and the Washoe smelters. The Fairview, Nattie, and Silver Star mines are included among the producers in the Elliston district.

Washington Gulch District.—The average value per ton in this district is much enhanced by a reported high value of gold ore. The Elkhorn ore is extracted through a tunnel 300 feet long; the Gold Seal ore is hoisted through a vertical shaft 80 feet in depth. The Mammoth mine near Coloma is developed by 600 feet of tunnels.

Zozell District.—The Deer Lodge Consolidated Mining Company has built a new mill at the Emery mine. The mine is worked through a shaft of 900 feet on the incline of the vein and thence 475 feet vertically. Shipments of crude ore and concentrates went to East Helena and brought returns in gold, silver and lead. The Deer Lodge Queen mine was also in operation.

Ravalli County.

The Providence mine in the Eight Mile district, near Florence, was operated during the year. The ore was mined by means of a 100-foot incline shaft, and was shipped to the East Helena smelters. The Curlew mine did 200 feet of development work in its shaft. The Ore Finder and Black Hawk mines reported development work.

Silver Bow County.

PRODUCTION OF METALS AND THEIR ORES IN SILVER BOW COUNTY IN 1906 AND 1907.

Metal.	1906.		1907.		Increase(+)or decrease(—)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Gold .....fine ounces	60,495.97	$1,250,563	34,367.59	$710,441	– 26,128.38	– $540,122
Silver .....fine ounces	10,715,721	7,179,533	7,516,659	4,960,995	– 3,199,062	– 2,218,538
Copper .....pounds	289,780,050	55,927,550	218,836,627	43,767,325	– 70,943,423	– 12,160,225
Lead .....pounds	895,566	51,048	223,676	11,855	– 671,890	– 39,193
Zinc .....pounds	6,579,000	401,319	243,100	14,343	– 6,335,900	– 386,976
Total value	.....	64,810,013	.....	49,464,959	.....	– 15,345,054
Ore output..short tons	5,019,234	*12.91	3,735,346	*13.23	– 1,283,888	+ *0.32

* Value per ton, placer product excluded.

The census of the mining industry of Silver Bow county in 1907 shows that from the 80 deep mines of the county 3,735,346 tons of ore yielded a value of $49,464,959. From the deep mines in 1906 5,019,234 tons were treated, yielding a total value of $64,810,013. The decrease in tonnage is 1,283,888, and in values $15,345,054. These data indicate that in the year 1907 the tonnage decreased to a little more than 74.4 per cent and the values to a little less than 76.3 per cent of the respective totals for 1906. When

the price of copper fell below the limit for good profits from low-grade ores, the large producers began smelting those of higher grade. This is true in even a greater degree at the last of the year, when the Washoe smelters were closed and the ores from the few mines then operating went to the Boston and Montana smelters. The effect is evident in the rise in average value per ton from $12.91 to $13.23, or 32 cents per ton.

There was a small production from deep mines in the Divide Creek district in the southern area of Silver Bow county, and a small yield from Rochester Basin in the same region. Still another placer ground known as German Gulch, in the northwestern part of the county, was worked in 1907. Aside from these small productions the values from Silver Bow county were from the Summit Valley district.

Another field of prospecting lies 25 miles south of Butte, in the Highland Mountains. One company has ordered machinery and other equipments for a mine in this region some five miles from the nearest station on the Milwaukee and St. Paul Railway. Development was also pursued in the region of the Continental Divide 12 miles northeast of Butte.

Summit Valley District.—An incident of moment in the mining industry of the year was the adjustment with the Butte Miners' Union of a sliding scale of wages. The contract is to the effect that miners are to receive $4 per day when copper is selling at or above 18 cents per pound, and $3.50 when the price is lower. The agreement was reached March 26, 1907, but did not take effect until November 1, 1907, from which time it will obtain for five years. During the year a strike of the machinists was satisfactorily settled, as well as a similar difficulty of short duration with the teamsters.

On account of the low price of copper and the large surplus of the metal on hand, the Amalgamated Copper Company issued an order about the middle of September restricting production from its mines to nearly 60 per cent of normal production. On December 1 another order was issued closing the Washoe smelter at Anaconda. Production then ceased from the mines of five of the subsidiary companies as well as from those of the North Butte and Red Metal companies, affiliated with the Amalgamated. A stronger working force, however, was put into the mines of the Boston and Montana Company, which treats its ores at its own smelters and refinery at Great Falls. During the crisis this company shipped about 3,700 tons of ore per day. Excepting these mines and those of the Original Company, all copper mines in the district were affected by the closing of the Washoe smelter. The mines of the latter company were worked as usual and the ores were treated at the Butte Reduction Works. This plant smelted also some shipments from the North Butte Company. During 1907 very marked improvements were under way at the Butte Reduction Works. A 700-ton concentrator was built, in which 10 improved Hartz jigs are made to do the work of 50 Hartz jigs of the older type. The whole capacity of the concentrator is now 1,200 tons in 24 hours, or about equal to that of the smelter. Twelve hundred feet of 8 by 16 foot reinforced concrete culvert was built to preserve the channel of Silver Bow Creek through the works. The storage bins for concentrates were also reconstructed of concrete. New plans are used for

storing Wyoming coals in the bins, replacing those destroyed several months ago by spontaneous combustion. The Washoe smelter remained closed until after the first of the year, during which time parts were strengthened to such an extent that the capacity of output has been increased to approximately 11,000 tons per day. At the Boston and Montana smelters the foundation for the new stack was laid and an elaborate system of flues constructed. The height of the stack above the ground on which it stands will be 506 feet; however, the elevation of the stack site is such that the top will be 742 feet above the charging floor of the blast furnaces. Plans were made for increasing the capacity of these smelters to approximately 8,000 tons per day.

About November 1 the Pittsburg and Montana Company blew in their smelter again and set to work about 150 men. This company supplanted the Baggaley form of pyritic smelting by the usual methods of treatment for the copper ores of Butte, and added four new blast furnaces. They also installed a 25-drill compressor for power on the lower levels, and later began erecting a 150-ton concentrator.

During a brief time, in which the lead smelters of the American Smelting and Refining Company at East Helena did not receive ore, some of the silver-lead ores from the Summit Valley district were sent to smelters in Utah, so that the industry of these mines was not materially hindered.

Several companies in the district have to report only development work for the year. Among these are the Davis-Daly, Butte and London, Butte Copper Exploration, Raven, Montana Consolidated, Alliance, and Colusa Leonard Extension companies. The Original Company did 1,600 feet of crosscutting for the Davis-Daly Company. After sinking to the 1,000-foot level the Butte and London Company has temporarily abandoned work.

On its own property the Original Company sank through barren ground into a 60-foot vein of ore. This company also pushed development work on the Elm Orlu and Poser claims, which have already begun producing. A large tunnel was finished connecting the Rarus and Tramway mines. The ores from the Rarus mine will be trammed through this tunnel to the shaft of the Tramway, thus saving 210 feet of grade for the locomotives in reaching the ore bins of the Rarus. New 32 by 72 hoists, for maximum depths of 3,500 feet, have been added to the equipment of both the Tramway and the Pennsylvania mines, and four 600-horsepower compressors to that of the Leonard. An 85-foot sump was excavated below the 2,700-foot level in the Anaconda shaft. From this mine is pumped the drainage of those closely surrounding it. The discovery of the large ore body on the 2,400-foot level of the Anaconda in 1906, and the striking of what was considered as its continuation on the same level of the Never Sweat in 1907, together with similar bonanzas found in the Rarus and Minnie Healy mines in 1907, go to show that the decrease in production can not be attributed to a lack of ore in sight. Although it has been argued that, on account of the increasing depth and temperature of the copper mines of Butte and the consequent difficulty of working them, the record production of 1905 will never be reached again, it is probable that a continued active demand for copper would accomplish such a result. The improvements mentioned above in both mines and smelters would also indicate a tendency toward enlarged production when conditions shall warrant.

DREDGING FIELD IN ALDER GULCH

In the Eighth report of the Bureau issued for the years 1901 and 1902, was given a comprehensive description of the dredging industry in the State. Since that time great strides have been made in this branch of mining, not only in the State of Montana, but in all parts of the world where placer fields, susceptible of successful dredging, have been developed. As the methods and machinery have been perfected the fields for operation have been increased, both in number and in area; and as these methods have been better understood, this form of gold mining has been reduced to a more scientifically certain proposition. There is no adequate excuse nowadays for the costly experiments which characterized the initial years of this particular industry; nor is there any excuse other than that of wilful ignorance for the exploiting and developing of impossible dividend-paying fields. It is true, however, that there are many factors to consider, and it is not to be said that everything has already been learned. It is still possible with the best of equipment and foresight to operate a dredge under excessive costs, but knowledge and experience in this line of mining has become a specialized commodity, as it is in any line, and the statements or inducements of promoters, however well-meaning, and of stock-sellers, however enthusiastic, should not be accepted unless based upon methods and proofs that are recognized as the most advanced and thorough.

There are numerous dredging grounds in Montana. Some of them have already been successfully worked out; others are in process of being worked, and still others are, as yet, not thoroughly proved up, or the development of which is retarded by lack of capital, or proper knowledge of the possibilities, or because of inadequate facilities and equipment for the most economical operation.

Perhaps the largest field yet developed in the State is that situated in the Ruby Valley at the mouth of Alder Gulch, in Madison county, and which field includes Alder Gulch itself as far up as the old capital town of Virginia City. This field was referred to in the report of 1901-1902, and therein was given a detailed description of the methods then in use on the Nos. 1 and 2 steam dredges at work there at that time.

This dredging ground, although commonly known as that of the Conrey Placer Mining Company, is in reality owned by two separate corporations. The land to the west of the north-and-south road entering the town of Ruby is owned by the Poor Farm Placer Mining Company, which owns between 200 and 300 acres of proved dredging ground, and also owns the No. 3 dredge. The land to the east of the road mentioned is owned by the Conrey Placer Mining Company, which owns and operates the two dredges known as Nos. 1 and 2. This latter company also operates the No. 3 dredge

under contract for the other corporation. They also own the machine shops, buildings, electric sub-station and other general property and equipment used in the management of the two joint properties. The Conrey Company includes in its holdings some four or five hundred acres of proved dredging ground, extending from the town of Ruby up to shortly beyond the town of Adobetown in Alder Gulch, a distance of some five or six miles. These two companies are owned and controlled by the same people. Some of the stock is held in Montana, but most of it in Boston, New York and Washington. One of the largest interests is that of Harvard University, through a bequest of Gordon McKay, the millionaire manufacturer who died a few years ago at Newport, Rhode Island.

In about the year 1896 the nucleus of the present coterie of ownership became interested in the worked-over placers of Alder Gulch. They bought out the old German Bar Fluming Company, which had been operating by the sluicing method near the town of Junction, about half way up the Gulch towards Virginia City, and immediately installed what was known as the Lidgerwood cableway plant. This plant consisted in general of a tower at a central location, and a moveable car on rails set off to the rim of the ground to be worked. This car would be moved around in a semi-circle, with the tower as the center, and the two were connected by a cableway over which was hauled an excavating bucket of about one and one-half cubic yards capacity. The first equipment proved too light; heavier machinery and stronger towers had to be constructed. After operating for several seasons, up to and including 1900, it was decided to abandon the plant. The method proved too geometrical in its construction, and too costly in operation to admit of a reasonable profit.

In the meantime (in 1898) the first attempt was made to recover on a large scale the values now known to exist in the lower fields of the valley into which Alder Gulch debouched. Through the sagacious insight of the late Prof. N. S. Shaler, the eminent geologist of Harvard University, it was satisfactorily determined by extensive drillings and pit-sinking that a large acreage in the Ruby Valley contained gold in such quantities as to make it an extensive commercial proposition. At that time, however, the dredging industry had not yet reached the advanced mechanical stage now attained for the handling of large quantities of material, especially at low costs and against obstacles which were even then not appreciated. It took a daring iniative, a large amount of capital, extreme patience and much ingenuity to devise and elaborate the necessary methods and await the outcome

The first installation for this purpose consisted of two Hayward orange-peel excavators. These were of small capacity and proved entirely inadequate for the work. The orange-peel buckets would not save all the values, nor would the mechanism handle a sufficiently large cubical yardage to justify its continuance.

The next step was to build and equip a floating dredge boat, which was the No. 1, or old "Gordon," built by the Vulcan Iron Works of Toledo, Ohio. This dredge was built in 1899 and went through many vicissitudes of alterations, reconstructions and general repairs, necessitated by the severe duties

with which it was taxed and which fairly strained it to the breaking point.

In 1902 was finished the second dredge, or the No. 2. This dredge was built entirely by the owners of the land, and while it contained many improvements and embodied the experience up to that time, it also proved inadequate for a lengthy life of such arduous work and was well-nigh worn out by the end of the season 1906.

Both these machines were operated by steam power. The very rough nature of the work, the tendency always present to force an increase in output, the unusual conditions existing in the water supply and nature of ground handled, and the general requirements of the business, all led to many weak points being developed, to a high cost of repairs and maintenance, unfitness of much of the special machinery for long service, and a general indication that some radical improvements had still to be made before it could be said that the business was on a secure and successful foundation. The supply of coal was becoming uncertain, due to periods of transportation difficulties and labor disputes at the mines, and the quality was becoming so affected by a demand which exceeded the supply, that it was a matter of self-preservation that the owners welcomed the advent of a new source of power. They even went to the extreme of preparing to generate electric power from a central steam plant; but satisfactory arrangements at this juncture were negotiated with the Madison River Power Company, and a power line built from the lower Madison Canyon to the town of Ruby.

The old dredges Nos. 1 and 2 were discontinued at the end of 1906. About this time (September, 1906) the No. 3 dredge had been finished and was put into commission. It had been building for two years or more. It retained the general method of gold-saving as before used on the Nos. 1 and 2, with the long tail sluice, single lift, open-connected, bucket chain, and the mooring line system of anchorage. Instead of steam machinery, however, there were motors and electrical equipment. The buckets are of about 15 cubic feet capacity, and move at a rate of about eight per minute. The hull is 138 feet long, by 48 feet wide, being perhaps the largest in superficial area in the world. It is 7 1-2 feet deep. The flume at the end of the boat is 135 feet long, by 66 inches wide, and lined the full length with angle iron riffles. The water is pumped by three large pumps, of 10, 12 and 14-inch sizes, in all pumping about 12,500 gallons per minute. This is a stream equal to about 1,000 miners' inches. These pumps are operated by two 50-horsepower and one 75-horsepower motors.

The digging chain is actuated by a specially built 150-horsepower motor. The dredge is swung from side to side by a 10-horsepower motor, direct-connected to a specially built winch; and the movement of the dredge under its anchorage of mooring lines is performed by a 30-horsepower motor directly connected to a massive and specially built winch. The large revolving screen through which the material passes and is partly washed and disintegrated, is 18 feet long, by 61 inches in diameter. In this screen are equally spaced holes of four by six inches in size, through which the smaller material passes into the flume or sluice box on the upper deck of the dredge, and thence into the tail sluice. The larger material passes out at the end of the

screen onto rock-chutes which carry it into the pond on either side. This screen is revolved by a train of gearing controlled by a 10-horsepower motor. The dredge is also equipped with a boiler and steam piping for heating purposes, as well as two large Hart & Crouse hot-air furnaces.

The No. 3 dredge has been operating continuously since September, 1906, and is doing remarkably fine work. Its average throughout the year is about 100,000 cubic yards, although at times the output per month has reached as high as 130,000 yards.

When the older steam dredges were abandoned at the end of 1906, plans were at once entered upon for the reconstruction or building of entirely new dredges, of the latest type and equipment. As an outcome of long study and investigation, contracts were let for the new Nos. 1 and 2. The old No. 1 was entirely discarded, and of the old No. 2 only a very small portion of the woodwork was found to be fit for use in the new work.

These two new dredges were built by contract by the Marion Steam Shovel Company of Marion, Ohio, after plans of the latest and most successful dredges known in the industry, and with such modifications and requirements as the experience of the Conrey Company justified, particularly in respect to the nature of the climate and local conditions. They are similar, differing only in some features of size and preliminary equipment. They are of the stacker and spud type, with tables or pans for the saving of the gold. The No. 1 dredge is designed specially for digging the shallower gravels in the narrower ground up Alder Gulch, and because of the unevenness of this ground there is provided a longer stacker.

Both hulls are approximately 96 feet long by 44 feet wide and 9 feet deep. The lower deck is extended beyond the hull proper and is 50 feet wide. The bucket chain on the No. 1 dredge is of the close-connected type, each unit being a bucket, whereas on No. 2 there is at present an open-connected type of chain, which is of the alternate-link-and-bucket style. It is proposed, however, when this chain is used up, to install on this dredge the close-connected chain. The buckets on No. 1 are of 7 1-2 cubit feet capacity, while those on No. 2 are of 10-foot size. In each case the speed of the chain is about the same, although while on No. 1 they dump at a rate of about 19 per minute, on No. 2 only one-half this number will dump in the same time. The material is dumped from the buckets into a hopper, from which it slides into a revolving screen. This screen is 35 1-2 feet long by 6 feet in diameter at the large end and 4 1-2 feet in diameter at the small end. There are numerous perforations of three-eighths inch and one-half inch holes, through which the very small material together with the gold particles passes to the pans or tables. There are ten of these on each side of the screen, each one being 30 inches wide and 18 feet long, set crosswise of the boat and emptying into sluice boxes which carry the material and water to the stern of the boat, where it falls into the pond. The larger material passes out the end of the revolving screen onto a continuous rubber belt, where it is carried up the stacker and dumped at some heighth at the back end of the bond. The gold is caught in the angle-iron riffles which line all the tables, and is cleaned up at intervals of about a week. The water is

furnished by two large pumps, one of 8-inch and the other of 12-inch size. Each operation is controlled by an individual motor.

The anchorage of the dredge is by the spud method. The spuds consist of one long timber 24x36 inches and 48 feet long on the No. 1 dredge, and 54 feet long on the No. 2 dredge, these wooden spuds being used for stepping or moving ahead; and one steel structure of the same dimensions used only when actually digging and to hold the dredge in its place. These two spuds move up and down in wooden casings at the stern of the dredge. The steel one is allowed to rest in the ground during digging, where it acts as a pivot from which the dredge is swung sidewise at the bow. The wooden one in the meantime is kept hoisted up in its casing. When it is desired to move ahead, the steel spud is hoisted up and the wooden one is dropped at any desired spot, thus acting in its turn as the pivot. By thus alternately using the two spuds the dredge can be "stepped" or moved to any desired location.

During operation the dredge is swung sidewise by two lines fastened at the lower end of the ladder, one on either side, thence to a sheave at the bank and back again to each side of the dredge and to the motor-winch on the deck, each line in turn being pulled and released as it is desired to pull the dredge one way or the other. As the material is excavated at a certain level while the dredge swings across the face of the bank in front, the bucket chain and the ladder on which the chain revolves are lowered gradually until bedrock is finally reached and all the gravel within reach has been taken up. It is then time to step ahead and attain a new position where more material can be loosened into the moving buckets. The gravel carried up the stacker is deposited in a pile at the rear concentric with the movement of the forward end of the dredge.

The total motor installation on each dredge is 405-horsepower.

This type of dredge is an improvement over the sluice-box and mooring line system, in that it is more flexible for manoeuvering, is a better gold saver, is operated at a less cost and can handle all the gold-bearing gravels without loss or duplication.

All the dredges in this field are now operated by electric power. As stated, this is furnished from the Madison River, the voltage to Ruby being 46,200. It is transformed down at the Conrey Company's sub-station to 2,200 volts, at which pressure it is distributed to the various dredges, the town lighting and the machine shop and dwellings at South Ruby on their respective individual circuits. The sub-station contains two banks of three each, 200 kilo-volt-ampere General Electric transformers, with one extra as a spare for emergencies. Also an elaborate switchboard containing all necessary meters, automatic switches, etc. Lightning arresters of latest design are on both the high and low tension sides of the instruments. One unique feature of the plant is the installation of graphic recording meters, which register on paper the amounts of current being used at any particular moment on each of the dredges. It is thus possible to tell from this central station just what each dredge is doing, whether it is running, what parts of it are running and at what hours and for how long the machinery may be stopped. This is quite convenient when it is understood that the dredges

are several miles apart and at different positions at different times.

In actual operation the dredges proceed at a rate of about 15 feet each day, having a pond with them of about 2,000 feet in circumference. They will dig over an area of one to two acres per month. The No. 3 dredge has covered 34 acres in 20 months, with an average depth of ground of about 34 feet.

The No. 1 new dredge was put into operation on May 1, 1908, and the new No. 2 about June 1, 1908.

In the early years of operating it was assumed that it would be impossible to work through the winter months, on account of the excessive cold and accumulated ice and frost. This, however, has been overcome by active attention to the difficulties involved, and during the past several winters the dredges have been kept in continuous commission. The Montana climate is very likely the severest where gold dredging is thus carried on during the winter.

With the three dredges described the Conrey Company has at last reached a point of assured success, and its holdings of land insure a life to the industry in this field of some 15 years or more. Unless more machines are built it is likely that this life will be longer. The operations are on the eight-hour basis. There are employed regularly on the dredges, in the machine shops and outside work, a force of some forty men. The pilotmen receive $5 per shift, the oilers and fluemen $3.50, and general laborers $3 for nine hours.

In addition to the dredges and sub-station the company has a large and well equipped machine shop and blacksmith shop together with a largely stocked store room of supplies. They thus have facilities for doing all necessary machine work, the repairing of broken and renewal of worn out parts.

The yield of gold from the ground runs from 10 to 30 cents per cubic yard. Much ground contains less than the lowest figure mentioned, but at present it is not profitable to handle it if the yield is likely to vary much.

With this modern system of gold recovery there will be some four to six millions additional values extracted from this field alone, which sum would otherwise lie idle and useless. The immediate benefit to the State of Montana, as well as the permanent benefit to the human race, caused by this increase in the world's stock of wealth, is one of the rewards from modern engineering skill and scientific research.

MONTANA MINING ASSOCIATION.

Few incidents in the history of Montana mining exceed in importance and interest the formation and subsequent operations of the Montana Mining Association. The immediate incentive to the organization of this body was the publication of a new schedule of rates for smelting by the only custom smelter in the State having capacity and facilities for handling all grades and quantities of ores.

As a result of the new schedule it was estimated that more than 80 per cent of the mines in certain districts would be compelled to suspend operations and in many instances the mines were actually closed. An agitation was immediately started looking toward action which would save the small mine owners from absolute ruin, and this culminated in a mass meeting in Helena where, on February 17, 1908, the Montana Mining Association was organized.

The original purpose of the Association was to erect a custom smelter in this State to be owned and managed co-operatively; but the necessity of immediate relief from existing conditions prompted the executive board to avoid all delays and an arrangement was effected whereby fifty-one per cent of the capital stock of the Idaho Smelting & Refining Company was placed in escrow for the term of fifteen years, power to vote said stock and elect five of the directors of the smelting company being vested in the Association. On October 20, 1908, the smelter, which is located at Ponderay, Idaho, was blown in and has been in full operation since. Under the circumstances it seems hardly necessary to comment upon what this Association means to the mine operators of this and other states.

The success or failure of this independent plant will affect every operator and miner alike, as it will all other lines of business endeavor. Under present arrangements the Association is not asking for stock subscriptions or money to continue operations, but it does ask and expect to receive the support of mining men to the extent of long term contracts for ore, and generous shipments from producing mines within its territory.

In addition to the establishment of a live smelter, the Association has secured a very material reduction in freight rates on ore shipments from all points in Montana, Idaho and Washington.

But the crowning glory of its existence has been the institution of an investigation into the mineral classification of the Northern Pacific land grant, which is now being vigorously prosecuted.

MANUFACTURING.

While the figures would seem to indicate that Montana is considerable of a manufacturing state, it should be remembered that in recent years smelters have been included as factories and the copper output classed as manufactured products. The industrial census of 1905 gives the total value of products, including custom work and repairing, as $66,415,452 from 382 establishments.

Of this number, including five smelters, 118 are incorporated companies, whose combined product equals $63,369,703. Capital invested is $52,589,810, an increase over the Twelfth Census of 37.6 per cent, while an average of 8,957 employees were paid $8,652,217 in wages, an increase of 17.3 per cent. Six selected industries show an increase in capitalization of 70.2 per cent with a total of $10,539,597, distributed among 188 establishments. These employed a total of 4,369 persons, whose wages were $3,488,484, an average of $798 each, which, of course, includes salaries of officials.

Of these six industries the first in importance, according to value of products, was the lumber and timber industry. The number of establishments reporting was 41, with capital of $4,605,052. Value of the product was $3,024,674, while 2,180 employees received $1,479,255 in wages and salaries. The latter item shows an increase in five years of 26.4 per cent.

The industry next in importance was flour and grist mill products. During five years the value of the output of 12 establishments increased $1,065,674, or 113.7 per cent. Capital invested was $991,191; value of the product, $2,003,136; and 67 employees received $57,096 during the year.

The production of malt liquors was next in the list, 23 establishments reporting capital of $2,174,690; value of product, $1,731,691; employees, 250; and wages, $284,795.

Cars and general shop construction and repairs by steam railroads involved capital to the extent of $1,055,108, with products of $1,572,478, and 1,039 employees earning $799,468.

Printing and publishing was fifth in the list with 92 establishments. Capital, $1,023,785; product, $1,486,566; employees, 481; and wages, $542,063.

The foundry and machine shop reports were the only ones to show a decrease in capital and output during the five-year period. Ten concerns reported capital of $689,771; products, $871,590; employees, 353, and wages, $325,807.

The annual reports of the eight railroads operating in Montana for the fiscal year ending June 30, 1907, shows a total of 3,348.71 miles of main line and sidings, which, on this basis, has cost to build, $156,780,999.75. These figures, of course, do not include the new Milwaukee, Billings and Northern, nor the extensive double tracking on the Northern Pacific. Gross earnings

for the year were $33,449,643.16 for seven roads only, as the Oregon Short Line report was for the entire system, and Montana business could not be segregated. The total number of employees, including 51 general officers, is 23,151, whose wages and salaries amount to $14,948,334.36 annually.

There is but little to be said of the progress of manufacturing in new lines. Deposits of gypsum and marl, which have been very thoroughly investigated, have proven of great value and several companies have been incorporated for the manufacture of cement. One of these, at Cementville, six miles west of Logan, has twenty-five cottages erected for its employees, and the ground in readiness for the plant, but from present indications it will be some time before the product will reach the market.

The business of making cement blocks for building purposes is extending to all parts of the State, and several notable structures have already been completed. One of these is the new hospital and women's building at the State Insane Asylum in Warm Springs.

The past two years has also shown a considerable increase in the number of brick yards in operation, one of them being the factory for sand brick at Helena, the product of which is attracting attention from contractors throughout the entire northwest.

All the planing mills and wood working factories are extending their operations, the making of boxes and crates for the apple and berry crops having added new and busy departments.

There is also renewed activity in the manufacture of stucco and plaster with bright prospects for the future.

The paper mill at Manhattan and the woolen mills at Big Timber and Manchester are closed, but every flour mill in the State reports an increase in business, while several new ones have been erected.

Two factors militate against an immediate and extensive spread of manufacturing in Montana; first, the very limited population of its vast area; and second, transportation. The importance of the latter cannot be overestimated. There is not only the high local rate upon intra-state shipments, but the impossibility of meeting the competition of the beneficiaries of interstate rates, operating both east and west of Montana. In many items of manufacture, this State must depend for its market upon the coast trade. In one instance, that of stucco production, it was found that the ton rate on the product of the home firm's nearest competitor, at Devils Lake, North Dakota, to coast points, was four dollars, while from Great Falls to the same destination the rate was six dollars, a condition which simply put the Montana concern out of business.

It is impossible to say to what extent this disadvantage prevails, but the history of failures in manufacturing enterprises emphasizes the belief in the existence of some powerful and blasting defect or hindrance.

The question of tonnage is also an important one as the railroad rates are based almost entirely upon the amount of business which a shipper has to offer. This militates strongly against the small manufacturer, and is, of itself, preventive of expansion. Business is impossible without favorable rates, and rates are withheld until business justifies them. However, there

are opportunities for a number of extensive manufactories, in copper, wool, dressed meats, lumber, cement, canning factories, and others, where the gross output would be sufficient to warrant the favorable rates necessary to success. In fact, with the introduction of the change in methods which will revolutionize the present custom of sending away Montana products as raw material, the freight problem will no longer remain a serious factor in the situation.

It is as shippers of raw material that Montana producers are made the victims of traffic managers and outside manufacturers alike. In disposing of finished products, the output of Montana mills and factories, the freight problem would be shifted to the jobbers and dealers in these products, or Montana manufacturers could take their wares to market themselves, where the increased values obtained above raw material prices would completely overshadow all questions of freight charges.

To prove this statement it is only necessary to compare the prices asked in Montana for manufactured woolens, or copper utensils, with the prices received for the raw materials. This vast margin represents values lost to Montana in transportation charges both ways, and profits to eastern manufacturers and jobbers, and a system which will save these values to those to whom they rightfully belong will make of Montana a great manufacturing state.

In the future development of the commonwealth, this question will assume more and more importance. Scarcely a community on earth makes less use of its natural resources than Montana, so far as extracting the greatest possible values from them is concerned. Whatever of development is in evidence has come with a ruthless squandering of opportunities for wealth production that is simply astounding. Indications, however, are not wanting that important changes in present methods are actually under way, and that in one vast industry, the production of copper, it is proposed to transform at least part of the output into finished products before it leaves the State. It is entirely within the scope of the various wool and livestock associations to adopt similar programs with regard to their raw products and a substantial start has already been made in this direction.

There is absolutely no difficulty in the way greater than many which have already been overcome in countless instances. Witness the harnessing of the Missouri River to the underground workings of Butte, a hundred miles away; the irrigation of worthless lands which made possible a one and a half million dollar sugar factory; the erection and operation of two of the largest smelters in the world; and the business acumen which has organized and managed the successful ranch and livestock interests of the Penwell companies.

Above all, it is for Montana men to grasp these opportunities which are rapidly becoming apparent and appealing to eastern capitalists and investors. It is out of the question that such openings as present themselves on every hand will long remain unoccupied. Montana fields are attractive, vast, and virgin; they are drawing the attention of people accustomed to low rates of interest on money, as is evidenced by the ease with which promoters in

all lines secure eastern capital to finance their undertakings. But this Bureau believes that every dollar of wealth extracted from the mines, flocks and fields of Montana belongs primarily to the people of Montana, and that the extreme value of these products should be exploited before they leave the State. The brains, capital and raw materials necessary are here in unlimited abundance, and the only lacking requisite is the nerve to occupy the field in advance of those who will certainly seek to take advantage of unoccupied opportunities, to the continued detriment of this State and its people.

GREAT FALLS WATER POWER AND TOWNSITE COMPANY.

In every report which has been issued by this department, more or less space is devoted to extolling the possibilities of production of electrical power at the Great Falls of the Missouri and the industrial significance of such development. It is, therefore, a pleasant task at this time to record the fact that this vast undertaking is no longer a possibility, but is rapidly assuming form and shape as an actuality. Few people realize what this enterprise means, not only to the locality which is the immediate scene of operations, but to the entire State, for it presages a revolution in Montana's greatest industry, the production of copper. It means that the enormous values in refining and manufacturing this world staple, so long lost to our own people, are now to be retained and enjoyed by them as they should be, while countless other industries may also have the benefit of cheap and extensive power. It means the occupation and cultivation of an enormous area of farm lands to supply the necessities of an army of employees in new industries.

The moving spirit in this transformation is the Great Falls Water Power and Townsite Company, a domestic corporation, capitalized at $5,000,000. This company owns the townsite of Great Falls and perhaps 5,000 acres of land adjacent thereto, including the ownership and control of both banks of the Missouri River from the Boston and Montana smelter to the Great Falls of the Missouri, a distance of nine miles. This property was formerly owned and controlled by Mr. James J. Hill and his associates, most of them large holders in the Great Northern Railway.

In June, 1908, Mr. John D. Ryan organized a syndicate which purchased more than 99 per cent of the stock of the former holding company and passed into immediate possession of the property, whose extent and value may be readily understood by reference to the chart on page 12 of this report. Mr. John D. Ryan and Mr. John G. Morony personally own a majority of the stock in the new company, and Mrs. Margaret P. Daly is also a large holder. Neither the Amalgamated Copper Company nor any of its servient companies are at all interested in the present ownership of this property.

As showing the energy with which construction work has been undertaken, the company has finished one dam and has four others well under way. The completed dam is at Black Eagle Falls, opposite the Boston and Montana smelter, and at low stages of water creates about 8,000 electrical horse-power. A much larger dam is nearly finished at Rainbow Falls, with a minimum capacity of 30,000 horse-power, and one of equal production at the Great Falls of the Missouri is well along toward completion. Two other dams, making five in all, have been begun between the Rainbow and the Great

Falls, whose combined production at low water will be from 25,000 to 30,000 horse-power.

With these dams completed and the power installed the company will possess a plant with a minimum capacity of nearly 100,000 horse-power. This tremendous energy is being developed for industrial and commercial purposes. Much of it will be used by the Amalgamated Copper Company at its mines and smelters at Butte, Anaconda and Great Falls. It is expected that the railroads will use a considerable quantity in the very near future in the operation of their railroads over the mountain divisions into Butte and Helena. A considerable portion will be used in Great Falls in local industries.

The cost of the dams under way, including the electrical installation, power transmission lines and other work, will be in the neighborhood of from $7,000,000 to $10,000,000.

The officers and directors of the Great Falls Water Power and Townsite Company are John D. Ryan, President; John G. Morony, Vice-President; Wm. M. Thornton, Secretary and Treasurer. James O'Grady and Ransom Cooper complete the board. Mr. Henry A. Herrick of the firm of Charles T. Main & Company of Boston, is the construction engineer; Mr. Max Hebgen of Butte is the consulting engineer; Mr. Frank Scotten of Great Falls is the general superintendent of construction, and Mr. T H. Larkin of Great Falls is the local agent of the Townsite Company.

COAL PRODUCTION FOR THE YEAR EN DED OCTOBER 31, 1907.

(Courtesy of State Coal Mine Inspector.)

NAME OF COMPANY.	LOCATION.	Number of days mine worked.	Number of pick miners employed.	Number of inside day men employed.	Number of outside day men employed.	Number of machine men employed.	Number of loaders employed.	Tonnage produced, short tons.
Montana Coal & Coke Co.	Aldridge	300	140	43	64	....	....	56,691
Maxey Bros.	Chimney Rock	250	30	3	20	....	....	7,629
Anderson & Evans	Chimney Rock	284	26	2	6	....	....	18,908
Trail Creek Coal Co.	Chimney Rock	240	10	25	10	....	....	8,366
Williams Mine	Livingston	140	4	....	....	....	....	80
Washoe Copper Co.	Storrs	90	43	5	50	....	....	14,978
Northwestern Improvement Co.	Chestnut	264	80	46	30	....	6	64,128
Spring Creek Coal Co.	Lewistown	300	49	10	12	....	....	26,503
Thomas Phillips	Maiden	240	4	....	1	....	....	1,975
Sharp Bros.	Lewistown	106	5	1	1	....	....	550
Central Montana Coal Co.	Lewistown	60	12	2	7	....	4	790
Sam Schultz	Utica	260	3	....	....	....	....	2,343
Rand Mine	Moore	150	2	2	....	....	....	718
Beaver Creek Fuel Co.	Moore	150	2	....	....	....	....	443
Dan Sharp	Utica	200	4	....	....	....	....	600
Shipley & Kemph	Gilt Edge	300	2	....	1	....	....	1,800
Cottonwood Coal Co.	Stockett	274	....	113	95	107	145	571,227
Nelson-Jenks Coal Co.	Sand Coulee	308	50	45	25	28	35	163,700
Stainsby-Latham Co.	Sand Coulee	150	8	2	2	....	....	6,145
Gerber Mine	Sand Coulee	290	15	25	12	30	12	61,717
Richardson Mine	Armington	.....	4	....	....	....	....	1,046
Pat O'Neill	Belt	Prospecting	2	....	....	....	....	65
Anaconda Copper Mining Co.	Belt	206	47	48	65	32	120	253,048
Fred Schmauch & Co.	Belt	250	8	3	1	....	....	2,701
Millard Mine	Belt	238	2	....	....	....	....	800
Louis Dahn	Sand Coulee	140	8	2	1	....	....	3,360
Orr Bros.	Belt	250	10	1	3	....	....	4,448
Jeff Nelson	Chinook	150	2	1	....	....	....	555
Macton Coal Co.	Big Sandy	195	6	3	5	....	....	639
J. H. Thornber	Chinook	300	4	....	....	....	....	1,614

COAL PRODUCTION FOR THE YEAR ENDED OCTOBER 31, 1907—(Continued).

NAME OF COMPANY.	LOCATION.	Number of days mine worked.	Number of pick miners employed.	Number of inside day men employed.	Number of outside day men employed.	Number of machine men employed.	Number of loaders employed.	Tonnage produced, short tons.
H. Raeder	Chinook	90	2	....	....	....	....	300
C. C. Mack	Big Sandy	250	2	....	....	....	....	1,010
Havre Coal Co.	Havre	300	26	4	14	....	....	9,651
Bridger Coal & Improvement Co.	Bridger	275	60	40	25	12	15	54,441
International Coal Co.	Bear Creek	260	35	4	5	....	....	10,025
Killorn & Weber	Fromberg	253	25	2	2	....	....	16,163
Montana Coal & Iron Co.	Bear Creek	100	38	10	11	....	....	8,071
Bituminous Coal Co.	Coalville	299	52	28	26	....	....	64,246
Washoe Copper Co.	Bear Creek	148	15	12	6	....	....	7,896
Bear Creek Coal Co.	Bear Creek	220	75	8	18	8	8	88,067
Northwestern Improvement Co.	Red Lodge	302	360	140	130	....	....	466,800
Smokeless & Sootless Coal Co.	Bear Creek	230	20	4	5	....	....	6,675
Joliet Coal & Fuel Co.	Joliet	300	10	2	5	....	....	12,000
Pedan & Elder	Miles City	300	6	2	1	....	....	7,142
Cooper Mine	Culbertson	60	2	....	....	....	....	300
Republic Coal Co.	Roundup	....	...	....	....	....	....	150
Total			1,370	638	659	217	345	2,030,564

Coke was made from 53,453 tons of coal at Electric and from 14,074 tons at Storrs.

COAL PRODUCTION FOR THE YEAR ENDED OCTOBER 31, 1908.

(Courtesy of State Coal Mine Inspector.)

NAME OF COMPANY.	LOCATION.	Number of days mine worked.	Number of pick miners employed.	Number of inside day men employed.	Number of outside day men employed.	Number of machine men employed.	Number of loaders employed.	Tonnage produced, short tons.
Gerber Coal Co.	Sand Coulee	171	11	12	10	6	8	29,132
Nelson-Jenks Coal Co.	Sand Coulee	196	50	50	15	15	50	113,612
Stainsby-Latham Coal Co.	Sand Coulee	228	12	3	3	....	....	13,728
Cottonwood Coal Co.	Stockett	204.5	....	98	111	106	148	433,166
Dahn Coal Mine	Sand Coulee	100	6	1	2	....	....	3,500
Lakeside Coal Co.	Sand Coulee	2	10	1	2	....	....	25
Oregon & Montana Coal Co.	Sand Coulee	152	6	3	1	....	....	775
Lochray Mine	Sand Coulee	22	2	....	1	....	....	218
Richardson Mine	Armington	110	2	....	....	....	....	1,510
Orr Bros.	Belt	70	5	1	2	....	....	1,530
Millard Mine	Belt	200	2	....	1	....	....	875
Fred Schmauch & Co.	Belt	290	6	2	1	....	....	5,068
Jimmie Hope Mine	Belt	250	2	....	....	....	....	2,054
Anaconda Copper Mining Co.	Belt	243	57	90	55	34	77	186,299
Armington Mine	Armington	100	3	....	....	....	....	500
Northwestern Improvement Co.	Red Lodge	439	580	233	201	1	....	646,576
Bituminous Coal Co.	Coalville	209	60	28	24	....	....	23,987
Killorn & Weber	Fromberg	220	17	2	2	....	....	12,275
Bridger Coal & Improvement Co.	Bridger	200	40	20	20	4	8	33,052
Montana Coal & Iron Co.	Bear Creek	161	16	5	4	....	....	21,954
Washoe Copper Co. (Coal Dept.)	Washoe	187	90	27	18	....	....	72,862
Bear Creek Coal Co.	Bear Creek	177	72	7	15	8	34	73,433
International Coal Co.	Bear Creek	171	78	9	19	....	....	27,570
Smokeless & Sootless Coal Co.	Bear Creek	240	10	5	5	....	....	6,436
Joliet Coal & Iron Co.	Joliet	150	3	1	1	....	....	2,350
Montana Fuel & Iron Co.	Joliet	108	3	....	....	....	....	973
Macton Coal Co.	Big Sandy	154	6	3	4	....	....	2,422
Havre Coal Co.	Havre	250	10	2	2	....	....	8,880
Mack Mine	Big Sandy	365	2	....	1	....	....	560
Raeder Mine	Chinook	60	1	....	....	....	....	150

COAL PRODUCTION FOR THE YEAR ENDED OCTOBER 31, 1908—(Continued).

NAME OF COMPANY.	LOCATION.	Number of days mine worked.	Number of pick miners employed.	Number of inside day men employed.	Number of outside day men employed.	Number of machine men employed.	Number of loaders employed.	Tonnage produced, short tons.
Burns & Cornwall	Chinook	90	1	....	1	....	....	225
Staton Mine	Havre	300	3	3	....	....	....	3,000
Milk River Coal Co.	Chinook	150	8	2	....	....	....	3,740
Alcott Mine	Havre	25	2	....	....	....	....	150
Hatch & Weaver	Miles City	151	6	1	....	....	....	1,283
Elder & Pedan	Miles City	300	6	1	1	....	....	5,624
Yellowstone Coal Co	Miles City	300	4	1	1	....	....	4,500
Sam Weaver	Miles City	27	1	....	1	....	....	165
Spring Creek Coal Co.	Lewistown	270	70	17	13	2	....	43,492
Mace Mine	Maiden	180	3	1	....	....	....	1,027
Schultz Mine	Sage Creek	250	2	....	....	....	....	1,303
Sharp Mine	Moore	200	2	....	....	....	....	600
Shipley & Kemph	Gilt Edge	290	2	....	1	....	....	2,038
Willow Creek Coal Co.	Willow Creek	305	3	....	....	....	....	2,009
Seman Mine	Sage Creek	290	2	....	1	....	....	1,504
Sharp Bros.	Lewistown	210	5	1	....	....	....	2,150
Central Montana Coal Co.	Lewistown	300	6	1	1	....	....	2,000
Rand Mine	Moore	83	2	....	....	....	....	225
Harrison Mine	Storrs	36	4	....	....	....	....	462
Northwestern Improvement Co.	Chestnut	300	109	28	47	....	....	29,191
Maxey Mine	Chimney Rock	211	27	3	22	....	....	15,250
Trail Creek Coal & Land Co.	Chimney Rock	198	20	8	7	....	....	5,728
Anderson & Evans	Chimney Rock	242	33	4	8	....	....	21,639
Montana Coal & Coke Co.	Electric	300	85	114	109	....	....	65,015
Republic Coal Co.	Roundup	290	36	14	17	....	....	39,358
Zeno-George Mine	Culbertson	120	3	1	....	....	....	553
Cooper Mine	Culbertson	110	2	....	....	....	....	353
Dempsey Mine	Culbertson	130	1	....	....	....	....	290
Total		....	1,589	802	750	176	325	1,978,347

Coke made, 29,482 tons, at Electric.

MISCELLANEOUS.

GENERAL SUMMARY OF WEATHER CONDITIONS FOR 1907.

The weather for 1907 was notable for the persistence, during long periods, of more or less well-defined types, rather than for sudden and marked changes. From January 1st to February 6th it was phenomenally cold and stormy, and the entire state was under a heavy covering of snow. There was a change to much milder during the first decade in February, and following for a period of nearly three months, the temperature was above, and the precipitation generally below the normal. From the middle of April to the close of September the conditions were again virtually reversed, the weather during this period averaging unusually cold and wet, while the last three months were almost continuously mild and dry. At the close of the year the ground was practically bare of snow throughout the state.

There was no material damage to agricultural interests by adverse weather conditions, except by the January snows, and in a few localities by lightning, hail and heavy rains during July.

Temperature.—The mean was 41.80°, or 0.9° below normal. By divisions the mean temperatures were as follows: Eastern division, 41.8°, or 1.0° below the normal; Western division, 41.9°, or 0.7° below the normal; the highest annual mean was 47.4° at Billings; lowest annual mean, 34.1° at Bowen. The highest temperature recorded was 105° at Fallon on August 9th; the lowest temperature recorded was —48° at Plentywood on February 4. The greatest daily range was 66° at Clearcreek January 3, at Bowen on January 4, and at Decker December 19 and 21.

Precipitation.—The average was 17.00 inches, or 1.43 above the normal. The averages by divisions were as follows: Eastern division, 15.31 inches, or 1.21 above the normal; Western division, 17.69 inches, or 1.56 above the normal. The greatest annual amount was 49.13 inches at Snowshoe (with January and December records missing), and the least 8.30 inches at Fallon. The greatest monthly amount was 9.20 inches at Evans during May. Average number of days with 0.01 inch, or more, of precipitation, 80.

Wind.—The prevailing direction of the wind was from the west; the highest velocity reported was 49 miles per hour from the southwest, at Havre on December 24.

Sunshine and Cloudiness.—The average number of clear days was 165; partly cloudy, 101; cloudy, 99.

THE WEATHER BY MONTHS.

January was noteworthy for a long period of cold and stormy weather. In most sections the temperature was below the normal during the entire month, and minimum temperatures below zero were recorded every day

at several stations in the extreme northeastern portion. The monthly mean was the lowest on record at stations having data available for comparison for a period of twenty-five years or less. The average daily deficiency was 14° in the eastern, and 12° in the western division. The month was also notable for heavy snowfall. The average precipitation for the state was the greatest for January during the past thirteen years. Snow fell almost continually in the mountain sections during the first seven days, and at frequent intervals throughout the remainder of the month. The average snowfall was 13 inches in the eastern, and 20 inches in the western division. There being very little thawing weather, the amount of snow remaining on the ground at the close of the month was excessive, both in the mountains and on the eastern plains.

The long cold period continued during the first five days of February, after which comparatively moderate temperatures prevailed until the 26th, which was the beginning of a brief period of zero temperatures over a large part of the state, principally east of the continental divide. Moderately heavy snows fell over most of the state during the first five days and again from the 25th to the 27th, nearly all the precipitation for the month occurring during these two periods. The snowfall was about equal over the two divisions, the average being slightly above five inches. The extended period of mild weather was exceedingly beneficial in clearing the ranges of snow, and solidifying the drifts in the mountains.

For the most part March was mild, and free from stormy weather. No zero temperatures were recorded in the southern and western portions except at high altitudes, but in the extreme northeastern section the monthly minimum ranged from zero to 25° below. There were several unusually warm days during the latter half of the month, maximum temperatures ranging from 65° to 78° being recorded over more than half of the state. The precipitation was slightly above the normal, and for the most part occurred in small amounts, at frequent intervals throughout the month. A larger percentage than usual was deposited in the form of rain, although the snowfall in the mountain regions was about up to the average, and there was an unusually large supply of snow in drifts at the close of the month. The average snowfall was 6 inches in the eastern, and 10 inches in the western division.

Seasonable weather prevailed during the greater part of April, the most pronounced departure from normal conditions being from the 23d to the 28th, during which period there was general and moderately heavy precipitation, and three days with a marked deficiency in temperature. A conspicuous phase of the weather during this month was the absence of warm days, the highest temperature reported being 79° as compared with 82° to 94° recorded in April of previous years since 1894. Notwithstanding the average precipitation was in excess of the normal, there was a deficiency over more than half of the State. The snowfall was slightly greater than that of March, and considerably more than usually falls in April, the average being 7 inches in the eastern, and 11 inches in the western division.

May averaged considerably colder than usual, although the only period

with a marked deficiency in temperature was the 1st to the 6th, inclusive. Minimum temperatures several degrees below freezing occurred at nearly all stations, while the maximum for the month was below 80° in most sections. The precipitation was in excess of the normal in the eastern and deficient in the western division. The weather was almost continuously unsettled and rainy from the 16th to the 25th, decidedly more than half of the precipitation for the month occurring during this period. The first thunderstorms of the season occurred at most stations during May, a number of which were accompanied by light hail. Snow fell at a number of stations, but as a rule it remained only a short time.

There was somewhat more than the usual amount of humid and chilly weather during June, although the temperature was fairly equable throughout the month. Minimum temperatures below freezing were recorded in a few instances, but no frosts of a damaging nature occurred. The first half of the month was generally cloudy and unsettled, and showers were of daily occurrence. The most copious rains, however, were from the 21st to the 23d, inclusive, and the driest periods were from the 17th to the 19th, and 25th to the 30th. Thunderstorms occurred at one or more stations every day except the 17th and 18th. In many instances they were accompanied by light hail, but no damage was reported.

July was characterized by cool, cloudy days, and frequent showers. The nights were not unusually cool, and frosts were reported at only three stations. There has been only one cooler July during the past fifteen years, the state average in 1902 being slightly lower. The precipitation was irregularly distributed over the state, a few localities receiving less than the normal, while over the state as a whole it was considerably in excess. Heavy local rains resulted in floods that caused considerable damage in the suburbs of Butte, and in several localities in Cascade, Fergus and Ravalli counties, and some damage by hail was reported in Cascade and Meagher counties.

The weather during the greater part of August was similar to that of July, the month as a whole being unusually cool and wet. During the coolest period, from the 18th to the 21st, temperatures below freezing with heavy or killing frosts were recorded in many localities. In the eastern counties there were a few hot, sultry days when temperatures of 100° or above were recorded at several stations. The precipitation was above normal in both sections, but the excess was much greater in the western division. Light hail was reported at various places over the state, but no material damage resulted.

Nearly normal conditions prevailed during the greater part of September. The days were generally bright and pleasant, with light winds, and the nights were only moderately cool, the minimum temperature ranging about 40° during most of the month. The minimum for the month was below freezing at a majority of the stations, but damaging frosts were reported at only a few stations. There were several periods with light, scattered showers, giving a fairly even distribution of the precipitation through the month. Very little snow fell except at high altitudes.

For six successive months, beginning with April, the temperatures were below the normal. October was uniformly mild, with an excess of clear weather, and a decided deficiency in precipitation. The average temperature was slightly higher than for any October during the preceding twelve years. A large part of the state received practically no precipitation, and amounts equaling an inch were reported only over small areas in the southern portion.

November was warm and dry, and the temperature was notably equable throughout the month. Clear or partly cloudy days predominated, and there was an absence of the general snow storm that usually comes during this month. No zero temperatures occurred in the western division, and there was only one brief period with a general deficiency. Most of the eastern division received no precipitation, or only a trace, and only limited areas in the western portion received over half an inch.

The warm and dry weather that had prevailed during the two preceding months continued throughout December. No zero temperatures occurred over a large part of the state, and there was no general storm of any importance during the month. It was moderately cold from the 16th to the 20th, this being the only period with temperatures much below the normal. From the continental divide eastward the precipitation was generally less than half an inch, and by the close of the month the little snow that fell during the month had disappeared, except in the high mountain districts.

TABLE I.—KILLING FROSTS, 1907.

STATIONS.	Last in Spring.	First in Fall.
Eastern Division.		
Billings	May *14	Sept. * 9
Broadview	June * 9	Aug. *19
Busby	May *30	Sept. 14
Chester	May *13	Sept. *11
Chinook	May *14	.....
Crow Agency	May *14	Oct. * 3
Culbertson	.....	Aug. *20
Decker	May *28	Sept. *11
Ekalaka	May *30	Sept. *14
Ericson	.....	Sept. 9
Fallon	May *28	Sept. *14
Forsyth	May *14	.....
Glasgow	May * 9	Sept. *14
Glendive	May *26	Sept. *14
Goldbutte	July *16	Aug. *11
Graham	.....	Sept. 14
Havre	May 3	Sept. 18
Huntley	May * 5	Oct. * 3
Jordon	May *13	.....
Lodgegrass	May *27	Sept. 14
Miles City	May 22	Sept. 29
Poplar	May *19	Sept. *14
Ridgelawn	.....	Sept. *14
Springbrook	June 4	Sept. 21
Steele	May *13	.....
Tokna	June *15	Aug. 20
Valentine	May *14	Sept. 14
Western Division.		
Adel	June *10	Aug. 18
Agricultural College	May *13	Aug. 19
Anaconda	May *21	Aug. 14
Augusta	May *24	Aug. *20
Babb	May *27	Aug. *19
Boulder	June *10	.....
Bowen	July * 5	Aug. 19
Butte	June *24	Sept. *14
Canyon Ferry	May * 8	Sept. 14
Cascade	May 13	Sept. 29
Chester	May *13	Sept. *11
Choteau	May *13	Aug. *19
Columbia Falls	June *14	Aug. *22
Copper	June 19	July 5
Dayton	May *22	Aug. *18
Dillon	May *22	Aug. 19
East Anaconda	May *21	Aug. 14
Evans	May *13	.....
Ft. Benton	June *6	Sept. *29
Ft. W. H. Harrison	May *13	Sept. *12
Fort Logan	June 26	.....
Ft. Shaw	.....	Sept. 29
Fortine	June 15	Aug. 18
Grayling	July * 5	Aug. * 4
Great Falls	May 2	Sept. 29
Hamilton	May * 5	Sept. *18
Helena	May 5	Oct. 17
Homepark	.....	Aug. 25
Kalispell	May 5	Oct. 3
Lewistown	May 7	Sept. *15
Livingston	May * 5	Sept. *14
Marysville	June * 2	.....
Missoula	May *13	.....
Moore	May 13	July 5
Norris	May * 6	Oct. * 3
Nye	.....	Sept. 15
Ovando	.....	Aug. 20
Philipsburg	May *26	July 4
Plains	May *12	Sept. *14
Polson	May * 5	.....
Pleasant Valley	.....	Aug. *13
Raymond	.....	Aug. 11
Red Lodge	June 10	Sept. 14
Renova	May *21	Aug. 19
Snowshoe	May *25	Sept. *12
Toston	May *21	Aug. *19
Troy	.....	July *30
Utica	May *13	Sept. 19
Wolfcreek	June * 5	Sept. *13

*. No frost reported; temperature 32° or below, without precipitation.

TABLE II.—CLIMATOLOGICAL DATA FOR THE YEAR 1907.

(Explanation:—The Annual Mean Temperature is the average temperature at any place during the total number of years that the record has been kept.)

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).							Number rainy days.	Sky.			Prevailing direction wind blew from.
			Length of record—years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record—years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.		Number clear days.	Number partly cloudy days.	Number cloudy days.	
Eastern Division.																				
Billings	Yellowstone	3,115	12	47.4	100	Aug. 9*	—28	Jan. 14	8	14.72	4.63	May	0.10	Nov	49.9	75	....	....	....	w.
Broadview Experiment Station	Yellowstone	....	2	42.6	98	Aug. 17	—32	Jan. 14	2	15.24	4.32	June	0.03	Dec.	19.3	80	204	64	66	sw.
Busby	Rosebud	....	5	....	100	Aug. 9	....	.....	5	.....	....	....	....	....	....	....	....	....	....	w.
Chester	Chouteau	3,140	5	38.0	87	Aug. 24	—42	Feb. 4	4	.....	6.36	June	0.00	Oct.	....	45	166	126	73	w.
Chinook	Chouteau	2,502	10	....	94	Aug. 8	—45	Jan. 14	10	.....	4.51	June	....	....	....	....	....	....	....	w.
Clearcreek (Ada P. O.)	Chouteau	3,250	2	....	....	.....	—31	Jan. 14*	3	.....	....	....	....	....	....	....	....	....	....	...
Crow Agency	Rosebud	3,041	25	44.5	96	Aug. 15	—31	Jan. 14	27	20.28	4.62	May	0.35	Nov.	48.9	74	215	38	112	nw.
Culbertson	Valley	1,927	7	....	99	Aug. 8	—47	Feb. 4	7	.....	....	....	....	....	....	....	....	....	....	...
Decker	Rosebud	3,400	3	42.4	100	Aug. 9	—33	Feb. 2	3	15.65	5.00	May	T.	Aug.*	18.0	26	....	....	....	...
Ekalaka	Custer	....	7	43.5	99	Aug. 9	—27	Jan. 14	7	.....	3.54	May	T.	Nov.	....	62	223	46	66	w.
Erickson	Custer	....	....	....	....	.....	....	.....	2	20.73	5.59	June	T.	Nov.	25.3	....	....	....	....	...
Fallon	Custer	2,208	3	40.8	105	Aug. 9	—43	Jan. 14	3	8.30	3.10	June	T.	Mar.*	17.5	23	168	147	50	w.
Forsyth	Rosebud	2,514	3	....	....	.....	—37	Jan. 14	3	.....	....	....	....	....	....	....	....	....	....	...
Fort Benton	Chouteau	2,630	28	....	90	Aug. 17	—38	Jan. 13	28	18.69	6.15	June	0.00	Oct.*	37.0	51	213	97	25	sw.
Glasgow	Valley	2,092	14	37.5	99	Aug. 8	—42	Feb. 4	13	.....	3.35	June	0.00	Oct.	....	51	....	....	....	w.
Glendive	Dawson	2,069	18	42.1	104	Aug. 9	—38	Jan. 14	19	10.46	3.93	June	T.	Sept.*	....	48	187	94	53	sw.
Goldbutte	Chouteau	....	1	....	82	July 28	....	.....	3	.....	7.81	June	0.00	Oct *	....	78	180	46	108	sw.
Graham	Custer	....	2	....	100	Aug. 14	—30	Feb. 2	2	.....	5.47	May	0.02	Oct.	11.0	....	....	....	....	nw.
Havre	Chouteau	2,505	27	39.3	92	Aug. 17	—45	Feb. 4	27	13.28	3.85	June	0.04	Nov.	41.0	91	170	126	59	e.
Highwood	Chouteau	....	....	....	....	.....	....	.....	2	.....	8.00	June	0.06	Nov.	....	....	....	....	....	sw.
Huntley	Yellowstone	3,014	2	45.8	98	Aug. 17*	—34	Jan. 14	2	13.09	4.23	May	0.05	Nov.	....	58	192	94	75	w.
Jordan	Dawson	....	3	....	....	.....	—41	Jan. 15	2	.....	3.75	June	0.00	Oct.*	19.1	....	....	....	....	nw.
Lodgegrass	Rosebud	3,441	3	....	95	Aug. 9*	—30	Jan. 14	4	.....	4.39	May	....	....	23.4	49	....	....	....	w.
Malta	Valley	2,242	2	....	....	.....	—43	Feb. 3*	2	.....	....	....	....	....	....	....	....	....	....	...
Miles City	Custer	2,371	16	44.6	104	Aug. 9	—33	Jan. 14	16	14.75	4.39	May	0.04	Nov.	24.3	120	166	132	67	ne.
Mullets Ranch	Dawson	2,500	....	....	....	.....	....	.....	1	.....	....	....	....	....	....	....	....	....	....	...
Plentywood	Valley	....	1	....	....	.....	—48	Feb. 4	1	.....	....	....	....	....	....	....	....	....	....	...
Poplar	Valley	2,020	23	38.1	101	Aug. 9	—44	Feb. 3*	24	12.50	4.71	June	T.	Sept.*	38.2	41	261	51	46	n.
Ridgelawn	Dawson	1,915	10	....	101	Aug. 8	—44	Feb. 4	7	.....	....	....	....	....	....	....	....	....	....	w.
††Springbrook	Dawson	....	6	40.4	100	Aug. 7	—35	Jan. 14*	6	23.10	6.24	June	0.02	Nov.	77.7	79	99	119	147	w.
Steele	Chouteau	3,170	3	....	89	Aug. 17	—29	Jan. 15	3	.....	6.63	June	0.00	Oct.	....	72	....	....	....	w.
Tokna	Dawson	2,050	2	40.6	104	Aug. 9	—39	Jan. 15	2	13.55	3.15	June	T.	Nov.	42.5	56	172	130	62	n.
Valentine	Fergus	....	1	....	98	Aug. 8	....	.....	1	.....	2.71	June	T.	Oct.*	....	....	....	....	....	w.
Warrick	Chouteau	....	1	....	....	.....	....	.....	3	.....	....	....	....	....	....	....	....	....	....	...

TABLE II.—CLIMATOLOGICAL DATA FOR THE YEAR 1907—(Continued).

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).							Number rainy days.	Sky.			Prevailing direction wind blew from.
			Length of record—years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record—years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.		Number clear days.	Number partly cloudy days.	Number cloudy days.	
Western Division.																				
Absarokee	Carbon	4,000	....	....	....	.....	....	.....	2	.....	....	.....	....	....	....	....	....	....	....	w.
Adel	Cascade	5,200	9	40.8	84	Aug. 8	—32	Jan. 13*	9	17.40	5.13	June	T.	Nov.	48.0	73	226	60	70	*w
†Agricultural College	Gallatin	4,700	10	40.8	84	Aug. 8*	—25	Jan. 14	10	17.23	3.79	June	0.36	Nov.	53.0	94	105	228	32	se.
Anaconda	Deer Lodge	5,300	6	41.5	85	Aug. 1*	—25	Jan. 14	6	14.89	4.12	June	0.11	Nov.	....	96	155	54	156	...
Augusta	Lewis and Clark	4,071	9	40.1	85	Aug. 8	—33	Jan. 14	9	20.01	6.35	June	0.10	Nov.*	59.5	61	248	68	49	w.
Babb	Teton	....	2	37.3	79	Aug. 1*	—43	Feb. 1	2	23.22	7.11	June	0.06	Feb.	....	90	186	49	92	...
Bear Creek Cabin	Flathead	4,650	2	....	....	.....	....	.....	1	.....	....	.....	....	....	....	....	....	....	....	...
Boulder	Jefferson	4,904	14	....	....	.....	—28	Jan. 14	14	.....	....	.....	....	....	....	....	....	....	....	...
Bowen	Beaverhead	....	2	34.1	86	June 18*	—43	Jan. 9*	2	18.56	3.08	June	0.44	Oct.	94.3	104	155	82	128	...
Butte	Silver Bow	5,716	14	42.2	86	Aug. 7	—17	Jan. 14	13	14.83	2.87	June	0.10	Nov.	....	66	161	67	137	nw.
Canyon Ferry	Lewis and Clark	3,644	9	42.6	90	Aug. 8*	—26	Jan. 14	9	11.82	4.01	June	0.22	Nov.	....	65	213	97	55	nw.
Cascade	Cascade	3,361	4	45.1	89	Aug. 17	—30	Jan. 14	4	22.57	7.81	June	0.03	Nov.	39.8	89	204	103	58	sw.
Chouteau	Teton	3,810	5	....	86	July 11*	—32	Feb. 2	5	.....	8.10	June	....	....	....	....	....	....	....	...
Columbia Falls	Flathead	3,098	2	41.3	91	July 31	—25	Jan. 15	12	23.13	4.78	Aug.	0.36	Oct.	58.4	87	....	....	....	sw.
§§Copper	Meagher	5,680	....	....	....	.....	....	.....	4	19.72	4.12	June	0.12	Nov.	69.4	105	164	113	88	w.
Dayton	Flathead	....	4	42.5	88	Sept. 11*	—15	Jan. 14	4	14.60	2.71	July	0.03	Oct.	34.3	96	138	172	55	...
Dilon	Beaverhead	5,147	8	43.8	85	July 2*	—31	Jan. 14	7	21.98	5.67	June	0.29	Nov.	50.1	109	146	99	120	sw.
East Anaconda	Deer Lodge	....	2	41.0	83	Aug. 7	—25	Jan. 14	2	13.54	3.87	June	0.05	Nov.	37.6	90	155	54	156	w.
Evans	Cascade	4,900	2	....	....	.....	—30	Jan. 14	2	.....	9.20	May	....	....	....	....	....	....	....	...
Fort W. H. Harrison	Lewis and Clark	4,004	4	....	88	Aug. 7*	—25	Jan. 14	....	.....	....	.....	....	....	....	....	....	....	....	...
Fort Logan	Meagher	4,750	24	....	....	.....	—30	Jan. 8*	24	.....	3.10	June	....	....	....	....	....	....	....	sw.
Fort Shaw	Cascade	3,500	21	....	87	July 2*	....	.....	21	.....	5.09	June	T.	Nov.	....	....	....	....	....	...
Fortine	Flathead	2,973	2	39.5	87	July 31	—35	Jan. 14	2	19.22	3.10	June	0.31	Oct.	68.6	127	131	94	140	sw.
Grayling	Gallatin	6,700	3	....	79	Aug. 23	—40	Dec. 19	3	15.64	3.01	Mar.	0.13	Nov.	74.5	96	....	....	....	sw.
Great Falls	Cascade	3,350	16	44.0	88	July 28	—26	Jan. 14	16	18.72	7.46	June	T.	Nov.	39.4	92	156	167	42	sw.
Hamilton	Ravalli	3,575	5	44.2	90	July 11	—18	Jan. 9	5	13.68	4.35	June	0.37	Oct.	54.5	86	136	81	148	w.
HELENA	Lewis and Clark	4,112	28	42.6	87	Aug. 17	—21	Jan. 14	28	12.74	4.20	June	0.13	Nov.	44.3	100	117	115	133	sw.
Homepark	Madison	5,778	....	....	....	.....	....	.....	3	.....	4.58	June	0.10	Feb.	....	44	199	80	56	...
Kalispell	Flathead	2,965	9	42.1	90	Aug. 1	—19	Jan. 15	9	16.91	3.01	June	T.	Oct	48.1	131	94	147	124	w.
Lewistown	Fergus	4,010	10	42.1	92	July 23	—25	Jan. 14	10	16.51	3.90	June	T.	Nov.	39.7	64	131	114	120	nw.
Livingston	Park	4,488	11	45.8	92	Aug. 8*	—26	Jan. 14	12	19.96	4.26	July	0.34	Nov.	54.5	82	174	97	94	sw.
Lubec	Teton	5,046	1	....	....	.....	....	.....	1	.....	....	.....	....	....	....	....	....	....	....	...
Marysville	Lewis and Clark	5,370	14	....	....	.....	—28	Jan. 14	13	.....	5.90	Jan.	....	....	....	....	....	....	....	...
Missoula	Missoula	3,225	27	....	92	Aug. 1	—17	Jan. 17	28	15.34	4.41	June	0.19	Oct.	....	....	....	....	....	...
Moore	Fergus	....	....	....	....	.....	....	.....	1	.....	6.35	June	0.12	Nov.	....	....	....	....	....	sw.
Norris	Madison	....	1	45.2	88	Aug. 23	—22	Jan. 14	1	†16.48	3.85	June	0.13	Dec.	....	51	140	73	136	s.
Nye	Sweetgrass	....	....	....	....	.....	....	.....	3	23.10	4.89	May	0.29	Dec.	133.	115	164	96	105	sw.

TABLE II.—CLIMATOLOGICAL DATA FOR THE YEAR 1907—(Continued).

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).							Number rainy days.	Sky.			Prevailing direction wind blew from.
			Length of record—years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record—years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.		Number clear days.	Number partly cloudy days.	Number cloudy days.	
Ovando	Powell	4,207	8	....	87	Aug. 3	—30	Jan. 8*	8	14.25	3.18	June	0.01	Oct.	82.5	91	130	124	78	w.
Philipsburg	Granite	5,273	4	40.2	92	Aug. 9	—27	Jan. 14	4	15,.58	4.81	June	0.10	Nov	40.4	80	160	89	116	sw.
Plains	Sanders	2,473	9	44.0	91	Aug. 2	—12	Jan. 15	9	10.73	2.69	July	T.	Oct.	40.0	39	207	6	152	sw.
Polson	Flathead	....	2	....	....	.....	—12	Jan. 15	2	.....	2.72	June	....	....	....	....	....	....	....	...
Pleasant Valley	Flathead	....	1	....	87	Aug. 1*	....	.....	1	.....	....	.....	0.00	Oct.	....	....	....	....	....	...
Raymond	Teton	4,260	....	....	....	.....	....	.....	3	.....	5.91	June	T.	Oct.	41.4	59	175	85	75	w.
Red Lodge	Carbon	5,548	7	39.9	87	Aug. 13	—36	Jan. 14	7	21.02	4.28	May	0.29	Dec.	88.9	87	179	81	105	se.
Renova	Jefferson	4,383	9	43.3	88	Aug. 17	—30	Jan. 14	9	15.68	3.91	June	0.05	Dec.	22.0	97	166	92	107	sw.
Saltese	Missoula	3,600	....	....	....	.....	....	.....	3	32.46	6.79	Jan.	0.13	May	193.	82	239	17	109	w.
Snowshoe	Flathead	....	1	....	84	Aug. 2	....	.....	1	§49.13	....	.....	0.95	Oct.	....	....	....	....	....	w.
Toston	Broadwater	3,950	6	....	90	Aug. 17	....	.....	6	.....	2.86	June	T.	Nov.	....	....	....	....	....	...
Townsend	Broadwater	3,809	....	....	....	.....	....	.....	5	.....	4.07	June	....	...	....	....	....	....	....	...
Troy	Flathead	1,881	13	....	98	Aug. 1	—22	Jan. 14	13	.....	3.35	Mar.	0.50	Oct.	....	75	134	93	108	s.
Twin Bridges	Madison	4,650	8	....	....	.....	—28	Jan. 14	6	.....	....	.....	....	....	....	....	....	....	....	...
Upper Lake M'Donald	Flathead	....	2	....	94	July 31	—16	Jan. 13	2	31.58	4.98	Jan.	0.37	Oct.	....	....	....	....	....	...
Utica	Fergus	5,000	14	42.2	86	Aug. 8	—26	Jan. 14	14	18.33	6.75	June	T.	Nov.*	35,.3	68	220	96	49	w.
Wolf Creek (10 m. sw.)	Lewis and Clark	4,000	5	....	89	July 3*	—29	Jan. 14	5	.....	3.75	June	0.00	Nov.	....	64	126	120	88	w.
Yale	Fergus	3,990	13	....	....	.....	—29	Jan. 14	13	.....	....	.....	....	....	....	....	....	....	....	...

‡ Postoffice Bozeman. †† Postoffice Circle. * And other dates, directions or months.
† 13 days missing from January report. § January and December missing. §§ Postoffice White Sulphur Springs.
(All records are used in determining means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.)

TABLE III.—MONTHLY AND ANNUAL MEAN TEMPERATURES FOR THE YEAR 1907, WITH DEPARTURES FROM THE NORMAL.

(Explanation.—The Annual Mean Temperature is the average temperature at any place during the total number of years that the record has been kept. This also constitutes the Normal Temperature. The Departure is the number of degrees either above or below this normal temperature. If higher, the weather has been warmer than Normal and is indicated by a plus sign; if lower, the weather was colder than Normal and is indicated by a minus sign.

For instance, at Billings the average temperature for the month of January is shown to have been 12.3 degrees above zero; the Departure is shown to have been 11.3 degrees less than the Normal, which is equivalent to saying that the weather during that month averaged 11.3 degrees colder than the average for the 12 years during which time a record has been kept at that station. What the average for the 12 years has been is ascertained by adding the Temperature to the Departure which shows the Normal to be 23.6 degrees above zero.

On the other hand, the month of February is shown to have been 33.8 degrees above zero; the Departure is shown to have been 8.3 degrees greater, or warmer, than the Normal for the 12 years. In this case the Normal is ascertained by subtracting the Departure from the Temperature, giving a result of 25.5 degrees above zero.

(See Table No. 2 for the length of time that records have been kept at the various stations.)

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		Sept.		Oct.		Nov.		Dec.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Eastern Division.																										
Billings	12.3	—11.3	33.8	+8.3	46.2	+6.6	45.2	—2.9	51.8	—3.9	61.9	—0.1	69.2	—2.5	69.0	—1.5	59.0	—1.3	53.8	+2.8	40.2	+6.5	32.2	+2.8	47.4	+0.2
Broadview Exp. Station	7.0	.....	26.9	.....	34.8	.....	39.0	.....	47.6	.....	58.2	.....	64.8	.....	65.0	.....	55.2	.....	49.0	.....	36.0	.....	28.3	.....	42.6	.....
Busby	.....	.....	.....	.....	39.8	+6.8	.....	.....	47.8	.....	60.0	—0.8	65.2	—2.8	64.2	—4.3	55.2	—5.0	47.6	.....	34.0	.....	25.6	.....	.....	.....
Chester	—4.2	—13.9	16.6	+3.6	22.5	—4.1	38.0	—3.3	48.6	—4.0	57.1	—0.1	64.0	.....	60.9	—1.7	50.8	.....	48.6	.....	31.5	+1.0	21.9	+1.2	38.0	.....
Chinook	—5.8	—19.5	12.9	—2.5	20.8	—1.9	30.8	—12.6	45.8	— 8.6	60.4	—2.4	67.4	—2.6	64.3	—3.1	.....	.....	.....	.....	36.1	+8.0	22.4	—1.2	.....	.....
Clearcreek	1.6	.....	24.5	.....	30.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crow Agency	8.0	—9.7	26.1	+6.6	39.8	+7.4	42.6	—4.0	50.6	—5.1	60.8	—3.0	68.4	—2.4	65.5	—4.3	57.0	—1.6	50.2	+2.6	37.0	+4.1	27.6	+2.0	44.5	—0.6
Culbertson	—7.0	—14.1	10.8	+2.7	20.8	—2.5	.....	.....	.....	.....	.....	.....	65.4	—1.8	64.7	—1.7	53.6	—1.7	.....	.....	.....	.....	.....	.....	.....	.....
Decker	6.0	.....	23.0	.....	33.3	.....	36.2	.....	46.2	.....	59.8	.....	72.6	.....	66.2	.....	52.8	.....	50.0	.....	35.0	.....	27.4	.....	42.4	.....
Ekalaka	9.9	—9.7	25.8	+9.6	37.7	+8.5	37.9	—5.4	46.1	—7.4	61.0	—0.7	66.7	—1.7	67.2	—1.2	56.8	—2.5	50.4	+ 3.5	34.8	+2.5	27.4	+3.8	43.5	—0.1
Fallon	—1.9	.....	15.8	.....	31.6	.....	39.7	.....	48.0	.....	62.9	.....	68.0	.....	65.5	.....	55.8	.....	47.8	.....	34.6	.....	22.3	.....	40.8	.....
Forsyth	2.4	.....	24.4	.....	37.7	.....	41.0	.....	49.0	.....	61.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25.7	.....	.....	.....
Fort Benton	—2.1	—20.0	23.6	+1.2	34.2	+3.7	40.1	—4.6	50.6	—4.7	.....	.....	65.6	—4.2	64.2	—3.8	54.5	—2.5	50.4	+4.0	37.2	+6.0	29.3	+6.3	.....	.....
Glasgow	—9.2	—17.1	7.6	—1.2	20.2	+2.1	34.8	—9.5	49.4	—6.8	62.2	—0.5	66.4	—3.5	65.0	—2.8	53.8	—1.8	47.5	+3.7	32.6	+7.1	20.0	+4.3	37.5	—2.2
Glendive	—0.7	—13.5	18.7	+6.4	31.7	—6.0	40.2	—6.2	48.4	—8.1	64.8	—0.4	69.1	—3.0	69.7	—1.1	58.1	—1.0	49.4	+1.4	31.9	+2.7	23.4	+2.8	42.1	—2.2
Goldbutte	.....	.....	.....	.....	21.1	.....	30.0	.....	39.9	.....	49.0	.....	55.8	.....	52.2	.....	44.7	.....	47.0	.....	32.3	.....	.....	.....	.....	.....
Graham	12.9	.....	30.0	.....	30.0	.....	39.6	.....	.....	.....	60.8	.....	.....	.....	66.7	.....	56.0	.....	50.8	.....	35.0	.....	27.5	.....	.....	.....
Havre	—8.0	—21.5	16.1	+1.1	23.7	—3.6	37.3	—5.4	48.6	—5.5	59.8	—2.6	65.8	—2.3	62.8	—4.0	54.4	—3.2	49.6	+6.0	36.7	+6.1	24.2	+3.0	39.3	—2.7
Huntley	12.6	.....	31.0	.....	38.6	.....	43.0	.....	50.4	.....	59.9	.....	68.1	.....	66.4	.....	58.2	.....	52.2	.....	39.2	.....	30.2	.....	45.8	.....
Jordan	1.5	.....	19.4	.....	30.9	.....	38.2	.....	44.7	.....	60.0	.....	66.3	.....	.....	.....	50.0	.....	48.8	.....	35.6	.....	26.0	.....	.....	.....
Lodgegrass	9.4	.....	28.5	.....	37.2	.....	41.6	.....	49.6	.....	59.0	.....	67.0	.....	64.4	.....	56.0	.....	.....	.....	35.9	.....	29.3	.....	.....	.....
Malta	10.2	.....	12.0	.....	21.2	.....	36.6	.....	47.4	.....	60.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE III.—MONTHLY AND ANNUAL MEAN TEMPERATURES FOR THE YEAR 1907, WITH DEPARTURES FROM THE NORMAL—(Continued)

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		Sept.		Oct.		Nov.		Dec.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Miles City	2.8	—11.7	21.2	+4.4	37.2	+8.6	41.9	—2.8	50.5	—6.2	65.4	—0.6	71.0	—1.9	69.4	—2.1	59.5	—1.7	51.5	+5.0	37.8	+6.9	26.4	+5.4	44.6	+0.3
Plentywood	.....	.....	.....	.....	21.2	.....	.....	.....	.....	.....	.....	.....	67.2	.....	68.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Poplar	—9.2	—14.9	10.8	+3.9	21.3	—1.0	34.4	—8.7	45.2	—11.6	52.0	—1.6	66.2	—3.6	66.6	—0.6	55.0	—4.2	48.7	+4.0	34.9	+8.1	21.4	+7.1	38.1	—1.9
Ridgelawn	—5.2	—14.8	11.8	+2.4	.....	.....	.....	.....	.....	.....	.....	.....	62.7	—5.3	64.6	—2.5	55.6	.....	.....	.....	32.4	+2.9	22.4	+4.6	.....	.....
Springbrook	0.1	—12.9	18.8	+4.6	28.2	+1.9	36.8	—5.7	46.2	—5.4	61.4	+0.6	66.2	—0.2	64.1	—2.9	54.6	—3.0	47.8	+0.9	33.8	+0.7	26.6	+5.4	40.4	—2.1
Steele	6.1	.....	31.2	.....	34.4	.....	41.3	.....	49.4	.....	59.1	.....	64.1	.....	62.9	.....	54.8	.....	.....	.....	41.2	.....	33.6	.....	.....	.....
Tokna	2.4	.....	17.0	.....	27.9	.....	37.4	.....	48.0	.....	63.8	.....	67.6	.....	67.0	.....	56.4	.....	49.1	.....	33.4	.....	22.0	.....	40.6	.....
Valentine	.....	.....	.....	.....	37.8	.....	39.2	.....	49.2	.....	60.4	.....	67.0	.....	65.0	.....	55.6	.....	50.8	.....	35.7	.....	24.8	.....	.....	.....
Warrick	.....	.....	.....	.....	.....	.....	34.0	.....	43.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Western Division.																										
Adel	10.7	—11.9	30.5	+10.0	28.9	+2.3	39.2	—0.5	44.7	—1.6	51.8	—0.3	59.2	—0.4	57.0	—1.8	50.6	—0.7	49.3	+6.8	37.0	+3.0	30.4	+2.3	40.8	+0.6
Agricultural College	11.4	—10.6	29.0	+6.2	33.2	+3.8	38.0	—2.5	46.1	—3.6	52.2	—5.1	60.8	—2.4	58.2	—4.7	52.6	—1.4	48.0	+2.6	34.9	+0.2	25.8	—0.8	40.8	—1.5
Anaconda	12.8	—10.7	31.6	+4.9	32.2	+1.4	38.7	—2.2	46.7	—2.1	51.6	—2.7	60.5	—3.5	58.5	—3.7	52.9	—0.9	49.8	+2.2	36.2	+1.3	26.8	+0.9	41.5	—1.3
Augusta	4.8	—17.7	31.0	+7.4	31.2	+4.1	38.0	—4.2	45.6	—4.7	54.0	—1.2	59.2	—3.2	57.1	—4.2	49.6	—2.1	48.6	+1.9	31.0	+0.4	30.8	+1.0	40.1	—1.9
Babb	2.4	.....	27.0	.....	24.5	.....	32.8	.....	42.2	.....	50.3	.....	55.8	.....	53.2	.....	45.1	.....	49.6	.....	36.6	.....	28.0	.....	37.3	.....
Bear Creek Cabin	.....	.....	.....	.....	.....	.....	.....	.....	48.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boulder	8.4	—11.6	27.2	+5.5	.....	.....	38.4	—2.9	.....	.....	52.8	—3.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bowen	3.0	.....	19.0	.....	23.2	.....	33.2	.....	43.4	.....	48.3	.....	56.6	.....	51.4	.....	47.4	.....	43.8	.....	29.6	.....	10.6	.....	34.1	.....
Butte	14.8	—8.6	32.3	+7.6	34.2	+5.2	38.8	—1.5	47.0	—1.5	52.1	—3.5	61.8	—1.3	59.0	—3.7	54.8	+2.3	49.4	+4.7	36.0	+2.4	26.4	—0.3	42.2	+0.2
Canyon Ferry	7.3	—14.2	25.0	+3.5	34.2	+2.0	41.4	—4.7	51.0	—3.0	57.2	—3.6	65.0	—3.0	62.3	—3.9	55.4	—0.4	48.2	+2.3	36.4	+3.5	27.5	+4.3	42.6	—1.4
Cascade	10.1	.....	32.8	.....	35.8	.....	42.0	.....	50.1	.....	58.7	.....	63.8	.....	62.4	.....	54.8	.....	52.4	.....	42.0	.....	35.4	.....	45.1	.....
Choteau	4.4	.....	31.0	+8.5	32.2	+1.9	38.6	—3.6	47.4	—1.0	56.8	+0.2	62.8	—2.0	59.0	—3.6	51.5	—3.9	51.4	+4.7	.....	.....	.....	.....	.....	.....
Columbia Falls	12.2	—10.9	25.0	+0.7	31.7	—0.5	39.8	—5.2	50.5	—0.8	55.0	—1.6	61.8	—2.2	57.8	—4.6	53.0	+0.4	46.8	+3.3	35.2	+3.0	26.7	+0.5	41.3	—1.5
Dayton	14.6	.....	27.0	.....	32.8	—0.8	40.9	.....	51.2	—0.5	54.6	—4.1	62.0	—3.2	58.0	.....	55.4	.....	48.9	.....	35.6	+1.7	28.6	+0.8	42.5	.....
Dillon	13.9	—10.0	32.9	+6.6	36.4	+4.5	44.0	+1.3	50.8	—0.8	56.2	—1.5	62.4	—1.0	59.1	—3.5	55.2	+1.9	49.7	+3.6	37.2	+2.8	27.6	+0.3	43.8	+0.4
East Anaconda	13.7	.....	31.8	.....	30.0	.....	36.8	.....	45.3	.....	51.0	.....	61.0	.....	58.3	.....	52.4	.....	50.4	.....	35.2	.....	26.0	.....	41.0	.....
Evans	11.6	.....	30.7	.....	34.2	.....	39.0	.....	45.2	.....	.....	.....	60.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort W. H. Harrison	7.2	.....	28.2	.....	35.3	.....	43.9	.....	44.5	.....	.....	.....	63.8	.....	63.2	—3.2	53.5	—3.8	.....	.....	37.6	+5.1	26.4	+1.3	.....	.....
Fort Logan	.....	.....	30.9	+10.5	31.8	+4.5	38.4	—0.5	43.6	—4.3	48.1	—7.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Shaw	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	61.8	—1.1	64.0	—1.5	62.2	—2.5	54.1	—1.3	51.8	+5.3	38.6	+5.8	33.6	+8.3	.....	.....
Fortine	7.9	.....	26.1	.....	32.3	.....	38.6	.....	48.4	.....	54.5	.....	59.2	.....	55.5	.....	49.8	.....	43.8	.....	33.1	.....	24.9	.....	39.5	.....
Grayling	.....	.....	19.4	.....	26.5	.....	32.4	.....	41.2	.....	46.1	.....	53.4	.....	50.4	.....	43.9	.....	41.2	.....	24.4	.....	13.4	.....	.....	.....
Great Falls	7.1	—17.7	29.2	+3.8	35.6	+3.3	39.6	—5.5	49.8	—3.9	58.6	—3.5	65.4	—2.9	61.9	—4.8	54.2	—2.6	52.4	+3.6	39.6	+5.2	35.1	+2.6	44.0	—1.9
Hamilton	14.0	—12.6	31.3	+2.0	38.0	.....	44.8	.....	51.4	—1.4	55.6	.....	63.3	—2.1	60.5	.....	53.3	—3.2	49.5	.....	39.6	+3.6	28.9	.....	44.2	.....
HELENA	6.9	—10.2	27.4	+5.2	33.6	+2.6	39.9	—2.1	49.2	—2.4	56.6	—4.0	64.4	—2.2	61.6	—4.5	54.4	—1.8	49.8	+5.8	38.4	+5.7	2.86	+3.8	42.6	—0.3
Kalispell	11.8	—7.8	25.4	+1.6	33.6	+0.6	40.6	—1.9	51.6	+0.6	56.0	—2.8	63.2	—1.7	59.0	—3.9	52.6	—1.3	48.8	+6.3	35.9	+3.9	27.2	+3.3	42.1	—0.2

TABLE III.—MONTHLY AND ANNUAL MEAN TEMPERATURES FOR THE YEAR 1907, WITH DEPARTURES FROM THE NORMAL.—(Continued)

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		Sept.		Oct.		Nov.		Dec.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Lewistown	9.4	—12.5	30.5	+ 6.9	33.6	+5.0	37.7	—4.9	46.8	—3.9	56.2	—1.3	62.4	—1.3	60.0	—2.8	53.2	+0.3	19.8	+3.2	36.0	+4.1	29.3	+1.0	42.1	—0.5
Livingston	16.3	—9.1	34.5	+6.6	37.5	+6.1	40.4	—2.6	49.0	—2.8	57.3	—1.9	65.0	—2.4	63.0	—3.6	57.2	0.0	53.7	+4.7	39.9	+4.3	35.2	+4.2	45.8	+0.3
Lubec																					37.4		27.6			
Marysville	5.2	—15.7							42.8	—4.0	51.8	—3.2	59.6	—2.3												
Missoula	12.5	—8.5	26.7	+ 2.6	36.0	+1.6	43.4	—1.4	54.8	+0.8	59.6	—0.2	65.8	—1.4	62.6	—3.0					37.7	+5.8	25.0	+0.4		
Norris	17.3		33.3		36.7		42.4		50.0		55.2		65.4		62.8		57.4		50.8		39.3		31.6		45.2	
Ovando	4.6	—11.3	23.2	+4.4	27.9	—1.1	38.3	—1.8			58.3	+4.8	62.8		57.9	—1.1	54.0	+3.	15.4	+1.2	34.4	+4.5	21.4	0.0		
Philipsburg	11.6		29.6		30.6		37.8		45.6		52.1		60.2		56.6		51.0		18.2	+3.0	35.0	+1.5	24.6	—3.6	40.2	
Plains	15.0	—11.5	30.6	+ 3.3	35.6	—0.3	41.7	—3.4	52.4	+0.2	56.1	—1.3	65.2	—0.5	59.2	—5.2	54.5	—1.1	51.6	+4.9	38.2	+7.2	28.3	—0.6	44.0	—0.7
Polson	16.4		28.0		35.4		41.6		52.0		57.0		63.6						50.2				31.1			
Pleasant Valley													60.1		53.8		50.4		16.8		32.4		23.4			
Raymond																			17.5		38.0		37.2			
Red Lodge	13.4	—9.4	28.8	+7.3	33.2	+6.8	34.9	—4.3	12.2	—3.8	52.7	—3.3	58.2	—2.7	58.5	—2.6	51.7	—0.4	16.2	+2.8	33.2	0.0	36.2	0.0	39.0	—0.8
Renova	12.8	—11.4	33.0	+8.3	35.7	+2.5	41.2	—2.5	49.6	—1.8	54.2	—4.5	62.3	—3.6	59.1	—5.5	54.7	—1.0	18.6	+1.5	38.2	+1.1	30.0	+1.4	43.3	—1.3
Snowshoe			29.7		28.4		35.8		46.3		51.2		59.1		54.0		49.2		17.0		32.5					
Toston			32.9		35.1	+2.8	40.4	—3.1	50.0	—1.7	56.4	—0.8	62.7	—1.9	60.8	—3.3	54.4	+0.1	19.3	+3.5	35.4	+3.1	25.4	+2.0		
Troy	14.4	—11.3	33.6	+4.2	39.2	+3.3	45.9	—0.6			59.8	+1.1	65.0	+0.7	59.2	—3.8	54.5	—0.1	18.4	+2.5	36.8	+1.7	30.1	+1.2		
Twin Bridges	11.4	—10.3			35.6	+3.7																				
Upper Lake McDonald	7.1								50.4				58.5		56.4		52.2		18.1							
Utica	11.2	—12.1	31.2	+ 7.4	32.5	+4.8	37.2	—4.3	45.2	—5.2	54.7	—2.8	61.0	—3.5	60.4	—4.9	52.8	—3.1	51.6	+5.5	37.4	+3.9	31.6	+2.7	42.0	—1.0
Wolf Creek	6.6		30.8		33.7	+3.2	40.2	—2.8	47.5	—0.8	54.6	—1.5	62.4	—0.9	61.6		54.6	—1.5	52.6	+4.6						
Yale	10.0	+12.3																								

TABLE. IV.—MONTHLY MAXIMUM TEMPERATURES FOR THE YEAR 1907, WITH DATES.

Stations.	January		Feb.		March		April.		May.		June.		July.		August.		Sept.		Oct.		Nov.		Dec.	
	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
Eastern Division.																								
Billings	55	23	67	24	73	20	79	9	81	31	88	19	94	24	100	* 9	97	4	84	5	72	6	66	1
Broadview Ex. Sta	47	23	63	*20	68	20	71	9	74	15	81	*19	96	6	98	17	86	2	84	5	68	6	60	4
Busby	....	....	....	....	78	20	....	....	83	10	89	19	96	3	100	9	90	2	82	5	69	6	65	4
Chester	44	31	46	*8	59	31	66	21	75	15	82	*19	85	*23	87	24	80	2	79	5	63	* 25	58	4
Chinook	30	10	56	19	52	*24	61	23	76	8	87	* 9	91	26	94	8	....	....	....	....	68	5	52	1
Clearcreek	47	4	59	*12	65	31	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Crow Agency	47	31	55	24	73	18	75	14	80	*10	85	*11	95	3	96	15	82	* 2	80	5	70	6	61	1
Culbertson	28	24	44	*16	51	23	....	....	....	....	....	....	93	3	99	8	85	10	....	....	....	....	....	....
Decker	48	22	56	25	60	24	61	4	80	20	90	30	99	24	100	9	80	* 9	80	*12	70	16	60	1
Ekalaka	43	31	56	*17	75	20	72	13	73	15	88	15	96	3	99	9	94	5	80	* 5	67	6	65	4
Fallon	33	* 4	46	23	71	20	73	14	79	15	88	*27	99	3	105	9	91	4	84	5	69	6	57	1
Forsyth	46	*23	56	17	72	*20	76	14	80	10	88	27	....	....	....	....	....	....	....	....	....	....	53	24
Fort Benton	44	31	59	15	71	31	71	* 9	78	8	....	....	87	*11	90	17	85	2	82	9	62	6	[illegible]	[illegible]
Glasgow	31	31	36	23	49	23	63	30	79	15	89	29	90	* 3	99	8	85	2	78	15	68	6	55	7
Glendive	38	23	47	23	72	20	69	21	78	15	88	28	98	3	104	9	89	4	83	5	61	1	55	5
Goldbutte	....	....	57	10	54	31	61	21	72	15	77	26	82	28	81	24	74	2	73	5	60	5	....	....
Graham	51	*21	60	*16	78	*18	....	....	77	17	88	12	....	....	100	14	90	3	86	5	69	6	59	1
Havre	37	21	50	16	58	20	66	9	78	15	83	28	88	26	92	17	87	2	82	5	64	6	54	[illegible]
Huntley	50	*21	62	*22	73	22	74	9	79	15	85	*19	96	3	98	*17	90	2	80	5	70	6	63	1
Jordan	40	* 3	50	16	58	20	61	*20	76	14	82	*12	93	21	....	....	....	....	81	*11	70	* 3	59	1
Lodgegrass	51	31	58	24	70	31	76	9	80	10	85	19	94	3	95	* 9	85	1	....	....	69	6	59	5
Malta	35	23	43	8	48	20	61	22	74	28	84	28	88	11	....	....	....	....	....	....	....	....	....	....
Miles City	43	23	52	24	73	20	75	14	79	15	90	19	102	3	104	9	90	2	86	5	70	6	59	1
Plentywood	25	13	....	....	49	*19	....	....	....	....	....	....	99	17	98	* 8	....	....	....	....	....	....	....	....
Poplar	28	*23	45	16	55	23	67	14	79	15	87	27	95	3	101	9	87	2	80	5	70	6	55	* 4
Ridgelawn	34	23	42	*16	....	....	....	....	....	....	....	....	94	4	101	8	85	10	....	....	68	8	55	* 5
Springbrook	36	* 4	48	24	63	23	71	14	78	15	85	28	92	3	100	7	85	* 4	84	5	69	6	60	4
Steele	52	*22	65	15	69	*20	69	9	73	15	80	27	84	28	89	17	84	2	....	....	70	5	65	4
Tokna	38	23	44	*17	64	23	71	14	78	15	87	*26	95	3	104	9	87	* 2	85	5	68	6	53	7
Valentine	....	....	....	....	70	20	72	14	80	15	84	*27	91	20	98	8	88	2	84	5	69	6	59	7
Warrick	....	....	....	....	....	....	58	9	72	15	....	....	....	....	....	....	....	....	....	....	....	....	....	....

* Occurred on other dates also.

TABLE IV.—MONTHLY MAXIMUM TEMPERATURES FOR THE YEAR 1907, WITH DATES—(Continued).

Stations.	Jan.		Feb.		March.		April.		May.		June		July		August		Sept.		Oct.		Nov.		Dec.	
	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
Western Division.																								
Adel	46	22	57	10	58	20	65	* 8	72	31	78	28	81	11	84	8	80	2	75	6	56	1	60	3
Agricultural College	45	4	53	24	60	20	67	9	71	9	77	27	82	*11	84	* 8	79	* 2	75	5	57	4	52	1
Anaconda	48	*21	54	8	59	31	66	13	78	31	78	26	84	* 2	85	* 1	82	10	74	5	63	4	53	4
Augusta	49	23	59	*16	67	31	70	9	74	*15	83	26	84	2	85	8	80	2	80	5	69	6	63	4
Babb	42	22	52	*10	48	5	62	14	70	16	77	27	78	31	79	* 1	74	2	75	12	54	6	60	5
Bear Creek Cabin	....	....	....	....	....	....	....	....	92	31	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Boulder	50	4	55	10	....	....	70	9	....	....	80	*27	....	....	....	....	....	....	....	....	....	....	....	....
Bowen	42	4	41	* 6	50	31	60	21	80	31	86	18	86	2	86	23	83	25	75	9	57	5	39	* 7
Butte	47	21	58	21	60	20	68	13	73	31	79	*27	83	11	86	7	81	23	73	5	59	5	52	4
Canyon Ferry	55	31	51	20	64	20	72	9	77	*15	81	27	89	31	90	* 8	80	* 1	75	5	57	4	52	7
Cascade	52	23	60	* 8	70	31	73	9	78	10	83	*26	87	* 2	89	17	83	* 2	82	5	62	30	59	3
Choteau	51	23	60	*17	67	31	73	9	75	* 8	85	26	86	11	86	8	84	2	83	5	....	....	....	....
Columbia Falls	49	22	53	22	61	31	70	13	81	31	84	26	91	31	90	2	83	1	74	5	58	* 1	43	1
Dayton	48	21	58	20	64	30	67	*12	80	30	81	26	87	31	87	1	88	*11	77	7	62	5	45	* 7
Dillon	46	31	53	*20	60	20	72	15	75	*15	81	27	85	* 2	85	* 6	81	3	80	5	66	1	51	1
East Anaconda	42	21	50	8	57	31	63	13	76	31	75	17	81	1	83	7	79	10	72	* 5	59	5	42	1
Evans	47	22	54	*10	62	20	65	9	74	31	....	....	89	27	....	....	....	....	....	....	....	....	....	....
Fort W. H. Harrison	47	*22	59	16	65	17	72	16	72	15	....	....	82	*27	88	* 7	81	3	76	6	62	8	52	25
Fort Logan	....	....	55	* 1	58	21	66	* 9	68	8	80	20	....	....	....	....	....	....	....	....	....	....	....	....
Fort Shaw	....	....	....	....	....	....	....	....	....	....	83	*26	87	* 2	86	* 6	81	9	82	5	62	4	60	4
Fortine	45	22	54	20	59	31	70	13	82	31	85	25	87	31	86	2	78	9	75	5	57	5	42	1
Grayling	....	....	44	6	50	31	60	13	67	31	69	19	78	31	79	23	74	23	69	*10	49	9	38	* 5
Great Falls	54	22	60	22	66	31	65	* 9	74	30	79	26	88	28	80	* 1	79	* 2	75	* 5	61	30	60	* 1
Hamilton	46	23	57	9	64	20	73	9	83	31	82	28	90	11	88	1	....	....	70	7	68	2	50	* 7
Helena	47	21	55	8	65	31	70	9	76	31	81	19	86	11	87	17	81	2	77	5	59	1	51	7
Kalispell	42	22	54	20	65	31	68	22	80	15	80	28	88	31	90	1	78	1	71	5	56	4	42	5
Lewistown	48	21	60	16	70	20	69	9	75	15	80	27	92	23	90	8	87	2	89	11	68	6	71	4
Livingston	50	23	57	25	63	31	71	9	74	31	85	26	89	28	92	* 8	86	3	81	5	62	* 5	59	4
Lubec	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	62	* 5	60	4
Marysville	46	23	....	....	....	....	....	....	65	10	74	19	83	26	....	....	....	....	....	....	....	....	....	....
Missoula	46	31	53	20	70	31	73	14	82	*15	89	1	90	* 2	92	1	83	1	79	7	60	* 4	47	8
Norris	46	23	53	17	58	20	71	13	76	31	78	*19	86	22	88	23	84	10	77	5	63	2	62	4
Ovando	40	21	51	21	47	31	65	* 9	....	....	82	27	86	2	87	3	80	* 1	78	6	60	5	48	24

* Occurred on other dates also.

TABLE IV.—MONTHLY MAXIMUM TEMPERATURES FOR THE YEAR 1907, WITH DATES—(Concluded).

Stations.	Jan.		Feb.		March		April.		May.		June.		July.		August		Sept.		Oct.		Nov.		Dec.	
	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
Philipsburg	50	23	53	21	59	31	68	13	78	31	85	26	83	13	92	9	86	10	76	12	62	5	56	25
Plains	45	21	55	21	65	31	72	13	82	31	84	*26	90	31	91	2	83	10	73	* 6	66	5	43	* 5
Polson	45	22	48	21	66	31	68	*21	84	31	85	26	90	11	....	....	....	....	74	16	....	....	56	9
Pleasant Valley	....	....	....	....	....	....	....	....	....	....	....	....	86	31	87	* 1	82	10	79	5	59	5	43	10
Raymond	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	75	*12	60	5	60	2
Red Lodge	55	22	54	8	66	19	67	* 9	69	15	77	27	84	3	87	13	78	23	71	5	62	6	64	4
Renova	49	31	55	19	65	*20	74	9	78	15	79	27	85	2	88	17	84	2	75	5	60	* 1	54	4
Snowshoe	....	....	49	22	50	31	58	13	73	31	79	26	82	31	84	2	75	9	69	5	50	5	....	....
Toston	....	....	54	24	67	20	73	9	80	*15	82	*19	85	* 2	90	17	85	1	78	7	63	5	46	*21
Troy	45	23	54	*21	60	31	72	13	84	31	86	20	93	31	98	1	86	10	79	* 5	60	5	45	25
Twin Bridges	46	4	....	....	64	*17	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Upper L. M'Donald	29	6	....	....	....	....	65	16	77	31	....	....	94	31	89	* 2	82	23	74	4	....	....	42	* 6
Utica	51	22	65	8	62	20	68	9	72	15	76	18	83	2	86	8	85	3	79	5	61	* 3	62	* 2
Wolfcreek	51	22	57	* 9	66	31	70	* 9	79	30	82	*18	89	3	88	*17	89	1	80	*13	....	....	....	....
Yale	49	22	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

* Occurred on other dates also.

TABLE V.—MONTHLY MINIMUM T EMPERATURES FOR THE YEAR 1907, WITH DATES.

Stations.	Jan.		Feb.		March.		April.		May.		June.		July.		August		Sept.		Oct.		Nov.		Dec.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
Eastern Division.																								
Billings	—28	14	—18	3	13	26	13	29	27	* 2	43	5	45	16	34	*29	25	14	25	*18	5	11	2	18
Broadview Ex. Sta	—32	14	—22	2	10	*26	11	29	22	* 2	32	9	40	2	32	19	26	30	17	18	— 4	11	— 3	18
Busby	....	....	....	....	11	28	....	....	20	3	35	*10	42	16	32	20	25	14	14	30	— 7	11	—15	20
Chester	—40	14	—42	4	—15	2	5	28	22	2	33	10	40	* 1	35	*20	26	*14	19	19	1	*27	—18	18
Chinook	—45	14	—43	3	— 8	3	8	28	18	9	35	* 9	42	10	34	*18	....	....	....	....	4	11	—12	20
Clearcreek	—31	*14	—31	3	4	* 1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Crow Agency	—31	14	—18	* 2	13	26	10	25	24	* 2	39	* 5	47	7	35	20	30	14	22	7	— 1	11	— 5	20
Culbertson	—42	14	—47	4	—13	13	....	....	....	....	....	....	41	* 6	32	20	26	14	....	....	....	....	....	....
Decker	—32	15	—33	2	10	27	12	12	24	28	33	17	47	27	34	10	27	22	20	29	— 4	7	—16	*19
Ekalaka	—27	14	—26	2	8	27	2	29	13	14	33	4	40	14	36	19	25	29	15	27	1	11	— 6	20
Fallon	—43	14	—30	4	— 5	1	8	16	18	2	35	4	44	*14	34	31	14	21	9	27	— 1	11	—15	20
Forsyth	—37	14	—25	* 2	— 2	1	15	*1	20	2	37	6	....	....	....	....	....	....	....	....	....	....	— 8	19
Fort Benton	—38	13	—30	4	2	1	12	29	24	2	....	....	46	* 1	42	19	30	29	27	*18	10	11	5	19
Glasgow	—41	14	—42	4	—10	4	12	*16	20	3	31	4	44	7	35	19	15	30	21	3	o	11	—20	20
Glendive	—38	14	—33	4	— 3	1	15	*2	20	* 2	34	5	46	14	33	20	16	29	11	26	2	11	—15	20
Goldbutte	....	....	—20	26	—14	26	—10	28	10	2	24	3	24	13	25	*11	12	13	15	29	9	*10	....	....
Graham	—26	14	—30	2	10	28	....	....	....	....	35	4	....	....	33	20	28	14	24	12	— 1	11	— 1	20
Havre	—43	15	—45	4	—12	1	16	2	23	2	35	4	43	1	33	19	24	29	20	18	o	11	—11	20
Huntley	—34	14	—20	3	13	26	12	25	23	* 2	40	5	46	* 1	39	20	34	*13	22	27	2	11	o	19
Jordan	—41	15	—38	4	5	11	10	*15	20	* 1	35	3	40	23	....	....	26	*14	16	*18	— 7	11	—13	20
Lodgegrass	—30	14	—22	2	10	27	13	25	23	* 3	35	*10	43	16	38	*11	32	*14	....	....	1	11	o	18
Malta	—41	*15	—43	* 3	—15	13	13	27	22	* 2	32	4	44	8	....	....	....	....	....	....	....	....	....	....
Miles City	—33	14	—22	3	2	1	14	16	21	2	40	4	50	14	39	20	26	29	22	27	2	11	— 8	20
Plentywood	—44	*14	—48	4	—25	6	....	....	....	....	....	....	34	17	32	18	....	....	....	....	....	....	....	....
Poplar	—43	14	—44	* 3	—14	13	8	16	18	* 2	33	4	43	1	37	19	13	29	10	27	— 2	11	—16	20
Ridgelawn	—40	*14	—44	4	....	....	....	....	....	....	....	....	38	21	35	22	12	30	....	....	o	14	5	*19
Springbrook	—35	*14	—34	4	—10	30	— 6	16	16	* 3	32	4	42	1	29	5	9	29	12	28	1	11	— 9	17
Steele	—29	15	—24	4	6	26	13	28	26	2	40	3	43	* 5	40	*19	30	30	....	....	8	11	3	18
Tokna	—39	15	—31	5	—10	1	8	16	18	2	32	5	44	14	35	20	15	29	12	27	o	11	— 9	20
Valentine	....	....	....	....	10	*26	8	20	24	2	35	4	42	5	34	*19	16	29	21	3	— 5	10	—14	*18
Warrick	....	....	....	....	....	....	9	25	13	9	....	....	....	....	....	....	....	....	....	....	....	....	....	....

* Occurred on other dates also.

TABLE V.—MONTHLY MINIMUM TEMEPERATURES FOR THE YEAR 1907, WITH DATES—(Continued).

Stations.	Jan.		Feb.		March.		April.		May.		June.		July.		August		Sept.		Oct.		Nov.		Dec.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
Western Division.																								
Adel	—32	*13	—25	2	— 1	*25	9	27	18	2	30	10	37	* 5	30	*18	24	13	17	17	13	18	0	17
Agricultural College	—25	14	—14	3	12	26	11	28	23	5	33	*14	38	16	34	*19	23	*14	27	18	16	*19	— 5	*18
Anaconda	—25	14	— 7	3	7	26	4	28	20	2	31	7	36	5	33	19	29	*14	26	17	14	27	— 8	*18
Augusta	—33	14	—30	2	— 5	27	— 6	27	19	4	33	* 3	33	4	29	20	22	13	16	17	5	18	— 8	17
Babb	—39	*14	—43	1	— 9	*11	9	28	21	* 1	30	3	33	16	29	20	18	13	24	*17	10	19	8	20
Bear Creek Cabin	...	...	...	...	...	...	...	...	21	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Boulder	—28	14	—21	2	...	...	8	28	...	...	32	*10	...	...	...	...	...	...	...	...	...	...	...	...
Bowen	—43	* 9	—23	2	—10	5	10	13	20	2	28	*17	30	5	20	19	15	20	17	* 3	0	27	—36	19
Butte	—17	14	— 8	3	10	26	12	28	22	4	31	14	40	16	34	19	24	12	30	3	18	27	— 4	19
Canyon Ferry	—26	14	—16	3	8	26	13	28	22	4	34	*10	41	5	37	20	31	*14	26	18	16	18	0	19
Cascade	—30	14	—19	3	6	26	4	28	20	2	38	* 3	39	7	34	20	26	29	20	*17	7	18	— 6	9
Choteau	—30	10	—32	2	3	26	— 5	28	22	13	35	*10	40	16	31	20	25	29	18	17	...	...	...	...
Columbia Falls	—25	15	—11	3	8	17	10	28	21	4	29	14	33	* 5	30	*20	28	*18	19	19	10	18	— 1	19
Dayton	—15	14	— 5	3	11	4	11	27	25	3	35	9	37	* 4	32	18	31	28	28	*30	16	26	11	16
Dillon	—31	14	— 8	3	14	26	17	20	28	* 5	34	17	40	* 1	29	19	28	*11	26	* 1	16	26	0	18
East Anaconda	—25	14	—11	3	4	26	7	28	22	2	32	23	39	15	36	*19	32	*13	30	17	17	27	— 2	*18
Evans	—30	14	—26	* 2	4	27	5	28	23	4	...	...	38	* 5	...	...	...	...	...	...	...	...	...	...
Fort W. H. Harrison	—25	14	—17	* 3	5	27	0	28	22	2	37	10	44	16	39	29	31	20	...	...	13	19	— 3	*19
Fort Logan	—30	* 8	—20	2	5	26	3	28	12	* 3	28	24	47	2	...	...	...	...	...	...	...	...	...	...
Fort Shaw	...	...	...	...	...	...	...	...	...	...	41	18	42	8	37	20	24	29	21	17	13	24	0	* 9
Fortine	—35	14	—21	2	4	17	3	28	19	4	25	3	31	* 5	27	*18	27	*21	20	20	12	27	—10	19
Grayling	—37	26	—20	*17	—13	2	6	*20	17	5	25	10	29	4	19	20	10	20	13	9	0	18	—40	19
Great Falls	—26	14	—21	4	6	26	13	28	25	2	39	3	46	5	42	31	29	29	21	18	15	18	5	9
Hamilton	—18	9	0	3	17	4	17	28	25	* 3	35	24	38	8	38	20	30	18	31	19	17	*12	—10	19
Helena	—21	14	—18	3	6	26	10	28	26	4	36	23	43	16	37	29	32	13	30	18	20	27	1	19
Kalispell	—19	15	— 8	3	13	17	11	28	29	4	35	14	39	5	36	31	34	18	28	31	14	18	6	17
Lewistown	—25	14	—22	3	5	26	9	28	21	4	36	10	39	* 1	31	19	28	30	20	* 3	5	11	— 3	*17
Livingston	—26	14	—17	3	13	26	11	20	25	3	33	17	42	7	33	20	31	14	25	*18	14	11	2	17
Lubec	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	19	— 9	19
Marysville	—28	14	...	...	...	...	...	...	15	1	30	12	40	*14	...	...	...	...	...	...	...	...	...	...
Missoula	—17	17	— 4	2	13	5	12	27	25	1	37	5	41	3	38	*19	...	...	...	...	18	13	— 4	19
Norris	—22	14	— 9	3	12	26	12	28	27	4	35	15	40	15	36	16	34	*20	30	3	22	19	2	19
Ovando	—30	* 8	—12	3	— 4	4	0	27	...	...	34	12	35	6	25	20	20	*14	18	* 4	10	*12	—22	19
Philipsburg	—27	14	— 8	3	5	4	10	28	18	2	30	10	30	4	28	19	23	20	25	*17	10	27	—14	19

* Occurred on other dates also.

TABLE V.—MONTHLY MINIMUM TEMEPERATURES FOR THE YEAR 1907, WITH DATES—(Concluded).

Stations.	Jan.		Feb.		March.		April.		May.		June.		July.		August		Sept.		Oct.		Nov.		Dec.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
Plains	—12	15	— 3	4	16	4	12	28	28	2	37	* 3	38	5	34	16	31	14	28	*27	20	18	6	3
Polson	—12	15	2	* 2	20	* 5	11	28	30	4	37	3	42	* 5	....	....	....	....	33	31	....	....	11	19
Pleasant Valley	....	....	....	....	....	....	....	....	....	....	....	....	34	25	25	18	27	14	23	16	6	27	— 9	*17
Raymond	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	20	17	10	18	20	* 16
Red Lodge	—20	14	—27	2	7	*26	1	29	20	* 3	30	10	35	16	31	20	26	30	25	*18	7	11	— 8	18
Renova	— 30	14	—10	3	12	* 7	7	28	19	4	33	10	38	* 5	29	19	26	14	23	*18	19	12	3	18
Snowshoe	....	....	—10	4	10	17	8	28	16	5	34	*12	38	* 5	33	19	29	13	31	2	13	27	....	....
Toston	....	....	....	....	8	27	10	28	17	4	33	23	38	* 4	32	*19	28	20	22	18	17	3	—10	19
Troy	—22	14	4	4	22	17	30	6	....	....	35	15	30	30	32	19	33	30	25	12	23	27	o	19
Twin Bridges	—28	14	....	....	12	26	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Upper L. M'Donald	—16	13	....	....	....	....	9	28	31	* 8	....	....	37	*13	29	31	30	13	22	20	....	....	....	....
Utica	—26	14	—24	3	5	26	5	28	17	3	33	3	40	* 5	33	19	32	*13	23	17	9	10	o	17
Wolfcreek	—29	14	—22	3	4	26	1	28	21	2	23	5	39	7	33	20	29	13	25	19	20	*15	....	....
Yale	—29	14	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

* Occurred on other dates also.

TABLE VI.—MONTHLY AND ANNUAL PRECIPITATION FOR THE YEAR 1907, WITH DEPARTURES FROM THE NORMAL.

(The explanation as to ascertaining Normal Temperatures at Table III will also serve the purpose of ascertaining the Normal Precipitation if applied in this table.)

Stations.	January.		February.		March.		April.		May.		June.		July.		August		Sept.		October.		Nov.		Dec.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Eastern Division.																										
Billings	1.25	+0.44	1.25	+0.86	1.44	+0.33	1.21	—0.04	4.64	+1.57	1.17	—1.67	1.63	+0.82	0.36	—0.74	0.68	—0.06	0.57	—0.45	0.10	—1.11	0.43	+0.11	14.72	+0.06
Br'dview Exp. Sta.	0.52	.....	0.34	.....	0.83	.....	0.29	.....	3.60	.....	4.32	.....	3.85	.....	0.79	.....	0.46	.....	0.17	.....	0.04	.....	0.03	.....	15.24	.....
Busby	....	.....	.....	.....	0.69	—0.49	....	.....	2.93	.....	2.33	—0.20	0.96	—0.48	0.52	—0.52	2.03	+0.71	0.39	.....	0.28	.....	0.39	.....	.....	.....
Chester	....	.....	0.50	+0.19	0.40	+0.17	2.06	+1.58	1.60	+0.06	6.36	+3.67	0.77	+0.27	1.77	+0.74	0.93	+0.38	0.00	.....	0.02	—0.23	0.05	—0.32	.....	.....
Chinook	1.95	+1.33	0.22	—0.14	0.20	—0.25	0.03	—0.57	2.09	—0.60	4.51	+1.72	1.08	—0.47	1.88	+0.64	....	.....	....	.....	T.	—0.70	0.10	—0.38	.....	.....
Clearcreek	2.30	.....	0.85	.....	1.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crow Agency	0.95	+0.20	0.92	+0.34	2.09	+1.18	1.60	+0.23	4.62	+2.29	3.70	+1.02	2.05	+0.83	1.25	+0.32	1.20	+0.33	0.75	—0.36	0.35	—0.33	0.80	+0.16	20.28	+6.21
Culbertson	0.67	+0.30	0.12	—0.21	0.37	—0.04	....	.....	.....	.....	.....	.....	1.48	—0.41	2.02	+0.56	0.15	—1.06	....	.....	.....	.....	.....	.....	15.65	.....
Decker	0.50	.....	0.70	.....	0.10	.....	0.70	.....	5.00	.....	2.45	.....	2.00	.....	T.	.....	3.30	.....	0.70	.....	0.20	—0.09	T.	.....	.....	.....
Ekalaka	.....	.....	0.65	+0.05	0.26	—0.40	0.43	+0.32	3.54	+1.08	3.21	+0.96	2.86	+1.05	1.74	+0.26	1.42	+0.18	0.08	—0.40	T.	—0.22	0.25	+0.12	.....	.....
Ericson	1.15	.....	0.75	.....	0.25	.....	0.94	.....	5.42	.....	5.59	.....	2.89	.....	0.93	.....	1.51	.....	1.17	.....	T.	.....	0.13	.....	20.73	.....
Fallon	0.37	.....	0.04	.....	T.	.....	0.21	.....	2.57	.....	3.10	.....	1.05	.....	0.91	.....	T.	.....	T.	.....	T.	.....	0.05	.....	8.30	.....
Forsyth	1.70	.....	0.84	.....	0.75	.....	0.65	.....	4.71	.....	3.53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.28	.....	.....	.....
Fort Benton	2.40	+1.68	0.60	+0.14	0.70	+0.10	1.60	+0.45	1.39	—1.27	6.15	+3.75	2.75	+1.12	2.05	+1.19	1.05	+0.14	0.00	—0.58	T.	—0.56	0.06	—0.60	18.69	+5.56
Glasgow	.....	.....	0.17	—0.38	1.08	—0.25	0.67	—0.38	1.50	—0.95	3.35	+0.55	0.88	0.00	1.97	+1.38	0.46	—0.27	0.00	—0.68	T.	—0.66	0.30	—0.27	.....	.....
Glendive	0.65	—0.16	0.42	—0.23	0.45	—0.79	0.20	—0.91	1.90	—0.42	3.93	+0.49	1.07	—0.59	1.32	+0.35	T.	—1.10	T.	—0.77	0.06	—0.59	0.46	—0.24	10.46	—4.96
Goldbutte	1.29	.....	0.61	.....	0.57	.....	1.49	.....	2.43	.....	7.81	.....	1.77	.....	3.12	.....	3.23	.....	0.00	.....	0.00	.....	.....	.....	.....	.....
Graham	0.22	.....	0.47	.....	0.42	.....	.....	.....	5.47	.....	3.27	.....	3.01	.....	0.35	.....	2.59	.....	0.02	.....	0.14	.....	0.24	.....	.....	.....
Havre	1.73	+1.04	0.77	+0.30	0.58	+0.10	0.89	—0.12	1.87	—0.22	3.85	+1.03	1.46	—0.46	1.02	—0.24	0.83	—0.20	0.05	—0.45	0.04	—0.73	0.19	—1.44	13.28	—0.39
Highwood	.....	.....	.....	.....	.....	.....	1.95	.....	2.27	.....	8.00	.....	4.21	.....	2.54	.....	0.80	.....	0.65	.....	0.06	.....	0.45	.....	.....	.....
Huntley	0.36	.....	0.44	.....	1.12	.....	0.45	.....	4.23	.....	1.76	.....	2.39	.....	0.57	.....	0.93	.....	0.51	.....	0.05	.....	0.28	.....	13.09	.....
Jordan	0.80	.....	0.00	.....	0.70	.....	0.50	.....	2.51	.....	3.75	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.00	.....	0.10	.....	.....	.....
Lodgegrass	0.83	.....	0.70	.....	1.11	.....	0.70	.....	4.39	.....	1.42	.....	1.40	.....	0.83	.....	2.20	.....	....	.....	0.40	.....	0.30	.....	.....	.....
Malta	.....	.....	0.80	.....	0.40	.....	0.41	.....	2.09	.....	2.91	.....	1.46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Miles City	1.28	+0.66	0.34	—0.22	0.84	+0.08	0.61	—0.57	4.39	+2.41	3.98	+1.21	1.55	+0.18	1.02	—0.01	0.16	—0.76	0.22	—0.56	0.04	—0.56	0.32	—0.30	14.75	+1.56
Mullets Ranch	0.69	.....	0.31	.....	....	.....	.....	.....	1.80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Plentywood	1.64	.....	.....	.....	1.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Poplar	1.30	+0.66	0.40	—0.15	1.50	+0.51	0.93	—0.03	1.98	+0.12	4.71	+1.70	1.14	—0.46	0.42	—0.56	T.	—0.86	T.	—0.70	T.	—0.56	0.12	—0.40	12.50	—0.73
Ridgelawn	1.31	+0.63	0.40	—0.21	....	.....	.....	.....	.....	.....	.....	.....	2.92	+1.20	1.62	+0.09	0.50	—1.26	T.	—0.06	T.	—0.45	0.16	—0.63	.....	.....
Springbrook	1.96	+0.92	1.31	+0.48	2.14	+0.38	1.18	—0.06	2.88	+0.41	6.24	+2.46	4.09	+2.32	2.00	+0.21	0.41	—0.61	0.23	—0.30	0.02	—0.73	0.64	—0.64	23.10	+4.84
Steele	1.88	.....	0.45	.....	1.70	.....	1.65	.....	2.99	.....	6.63	.....	2.74	.....	2.57	.....	0.71	.....	....	.....	0.00	.....	0.15	.....	.....	.....
Tokna	1.64	.....	1.30	.....	0.95	.....	0.41	.....	1.93	.....	3.15	.....	1.27	.....	2.16	.....	0.25	.....	0.16	.....	T.	.....	0.30	.....	13.55	.....
Valentine	....	.....	.....	.....	....	.....	0.86	.....	1.67	.....	2.71	.....	1.79	.....	1.30	.....	0.08	.....	T.	.....	T.	.....	0.30	.....	.....	.....
Warrick	....	.....	....	.....	....	.....	1.71	.....	2.32	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....

TABLE VI.—MONTHLY AND ANNUAL PRECIPITATION FOR THE YEAR 1907, WITH DEPARTURES FROM THE NORMAL—(Continued).

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		Sept.		October.		Nov.		Dec.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Western Division.																										
Absarokee	0.70	.....	0.61	.....	1.05	.....	.....	.....	.....	.....	.....	.....	2.78	.....	1.13	.....	2.71	.....	.....	.....	0.30	.....	0.15	.....	.....	.....
Adel	0.80	—0.09	0.85	+0.05	0.85	—0.78	1.80	—0.23	2.67	—0.50	5.13	+2.27	1.92	+0.16	1.64	+0.61	0.71	—0.40	0.53	—0.25	T.	—0.85	0.50	—0.90	17.40	—0.51
Agricultural College	0.93	+0.19	0.80	—0.22	1.86	+0.69	0.59	—1.05	3.16	+0.37	3.79	+1.28	2.16	+1.11	1.37	+0.59	0.41	—0.97	1.08	—0.01	0.36	—0.80	0.42	—0.36	17.23	+0.82
Anaconda	0.99	+0.25	0 82	+0.17	1.08	+0.18	0.75	+0.13	0.58	.....	4.12	+2.37	2.40	.....	1.97	+1.17	1.37	+0.65	0.30	—0.14	0.11	—0.38	0.40	—0.64	14.89	.....
Augusta	2.10	+1.56	0.40	+0.04	1.05	—0.15	2.08	+0.81	2.62	—0.27	6.35	+3.40	2.12	+0.47	1.76	0.00	0.91	—0.18	0.42	+0.19	0.10	—0.68	0.10	—0.45	20.01	+4.74
Babb	1.49	.....	0.00	.....	1.25	.....	1.82	.....	2.45	.....	7.11	.....	2.27	.....	2.23	.....	3.37	.....	0.34	.....	0.28	.....	0.61	.....	23.22	.....
Bear Creek Cabin	.....	.....	.....	.....	.....	.....	.....	.....	2 02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boulder	1.00	+0.35	0.52	+0.09	.....	.....	0.11	—0.59	.....	.....	2.65	+0.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bowen	2.42	.....	2.18	.....	1.25	.....	0.61	.....	0.57	.....	3.08	.....	1.77	.....	1.81	.....	1.29	.....	0.44	.....	0.58	.....	2.56	.....	18.56	.....
Butte	0.80	—0.07	0	+0.11	0.55	—0.52	1.30	+0.06	1.25	—0.76	2.87	+1.19	2.82	+1.60	2.20	+1.31	1.50	+0.62	0.20	—0.45	0.10	—0.50	0.24	—0.52	14.83	+2.12
Canyon Ferry	0.34	—0.10	0.26	—0.34	0.93	+0.18	0.44	—0.25	1.52	—1.06	4.01	+2.43	1.67	+0.15	1.10	+0.04	0.63	—0.31	0.44	—0.06	0.22	—0.22	0.26	—0.30	11.82	+0.16
Cascade	1.60	.....	0.50	.....	1.09	.....	1.05	.....	3.01	.....	7.81	.....	2.80	.....	2.68	.....	1.11	.....	0.59	.....	0.03	.....	0.27	.....	22.57	.....
Choteau	.....	.....	.....	.....	.....	.....	0.59	—0.05	1.50	—0.78	8.10	+4.42	1.37	—0.24	1.28	—0.13	0.66	—0.10	0.05	—0.20	.....	.....	.....	.....	.....	.....
Columbia Falls	2.76	+0.71	2.99	+1.24	1.97	+0.83	0.90	—0.09	0.87	—2.07	3.28	+0.56	1.98	+0.48	4.78	+3.10	2.08	—0.11	0.36	—0.72	0.37	—2.16	0.79	—1.22	23.13	+0.55
Copper	1.35	.....	0.86	.....	3.04	.....	1.30	.....	2.70	.....	4.12	.....	3.02	.....	1.30	.....	1.07	.....	0.63	.....	0.12	.....	0.21	.....	19.72	.....
Dayton	1.23	.....	0.91	.....	1.34	+0.36	0.80	.....	1.36	.....	2.58	.....	2.71	.....	1.20	.....	1.30	.....	0.03	—0.71	0.27	—1.06	0.87	—0.48	14.60	.....
Dillon	1.65	+0.67	1.43	+0.73	1.64	+0.24	1.39	—1.01	3.03	—0.37	5.65	+2.78	2.85	+1.85	2.00	+0.23	1.01	—0.24	0.71	+0.17	0.29	—0.51	0.31	—0.62	21.98	+3.89
East Anaconda	1.35	.....	0.71	.....	0.58	.....	0.49	.. ..	0.62	.....	3.87	.....	1.99	.....	1.76	.....	1.32	.....	0.48	.....	0.05	.....	0.32	.....	13.54	.....
Evans	4.30	.....	1.00	.....	1.45	.....	3.30	.....	9.20	.....	.....	.....	6.80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Logan	1.05	+0.42	1.80	+1.22	0.42	—0.55	0.60	—0.43	0.17	—2.19	3.10	+0.99	0.15	—1.12	0.07	—0.76	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Shaw	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.09	+3.17	1.70	+0.73	3.03	+2.23	0.27	—0.47	0.44	—0.04	T.	—0.44	0.06	—0.51	.....	.....
Fortine	1.87	.....	1.39	.....	1.64	.....	1.03	.....	1.73	.....	3.10	.....	1.97	.....	2.15	.....	2.54	.....	0.31	.....	0.67	.....	0.91	.....	19.22	.....
Frayling	2.07	.....	0.48	.....	3.01	.....	0.42	.....	1.57	.....	2.18	.....	1.81	.....	1.14	.....	1.14	.....	0.81	.....	0.13	.....	0.88	.....	15.64	.....
Great Falls	1.78	+1.17	0.26	—0.23	0.95	+0.25	0.90	—0.18	1.74	—0.84	7.46	+4.18	2.09	+0.59	2.67	+1.81	0.25	—0.63	0.10	—0.36	T.	—0.83	0.52	—0.04	18.72	+4.90
Hamilton	1.51	+0.75	0.93	+0.52	1.03	.....	0.44	.....	0.46	—0.55	4.35	.....	0.62	—1.93	1.51	.....	1.07	—0.32	0.37	.....	.....	.....	0.40	—0.60	0.99	+0.20	13.68	.....
Helena	1.29	—0.06	0.74	—0.01	0.64	+0.05	0.80	—0.32	1.01	—0.55	4.20	+1.77	1.28	+0.21	1.00	+0.31	0.81	—0.25	0.58	—0.24	0.13	—0.59	0.23	—0.57	12.74	—0.25
Homepark	0.95	.....	0.10	.....	2.44	.....	.....	.....	2.12	.....	4.58	.....	2.09	.....	1.42	.....	0.40	.....	0.85	.....	0.70	.....	3.00	.....	.....	.....
Kalispell	2.01	+0.42	1.51	+0.05	1.16	+0.08	0.87	—0.19	1.06	—0.97	3.01	+1.27	1.14	+0.30	2.54	+1.65	2.12	+0.79	T.	—1.17	0.50	—1.40	1.02	—0.83	16.94	0.00
Lewistown	1.88	+1.10	0.47	—0.44	0.92	—0.43	0.45	—1.12	2.25	—0.88	3.90	+0.44	2.14	—0.69	3.24	+1.98	0.75	—0.58	0.26	—0.39	T.	—0.98	0.25	—0.51	16.51	—2.50
Livingston	1.17	+0.64	1.00	+0.47	2.43	+1.48	1.60	+0.69	3.93	+1.03	1.62	—0.46	4.26	+3.13	1.33	+0.72	1.44	+0.24	0.65	—0.24	0.34	—0.56	0.19	—0.24	19.96	+6.90
Lubec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.40	.....	1.35	.....	.....	.....
Marysville	5.90	+4.00	.....	.....	.....	.....	.....	.....	2.34	—0.52	4.33	+1.97	2.53	+0.92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Missoula	2.94	+1.41	1.05	+0.14	0.75	—0.33	1.33	+0.36	0.20	—1.88	4.41	+2.17	1.12	+0.11	1.78	+0.93	1.04	+0.01	0.19	—0.95	0.22	—0.98	0.31	—1.20	15.34	—0.21
Moore	.....	.....	.....	.....	.....	.....	.....	.....	2.34	.....	6.35	.....	3.64	.....	2.63	.....	0.55	.....	0.28	.....	0.12	.....	0.17	.....	.....	.....
Norris	0.56	.....	0.92	.....	1.94	.....	0.85	.....	3.68	.....	3.85	.....	1.30	.....	1.00	.....	0.38	.....	1.97	.....	0.60	.....	0.13	.....	16.48	.....
Nye	0.93	.....	0.98	.....	2.34	.....	2.30	.....	4.89	.....	1.93	.....	3.31	.....	1.96	.....	2.77	.....	0.78	.....	0.71	.....	0.20	.....	23.10	.....

TABLE VI.—MONTHLY AND ANNUAL PRECIPITATION FOR THE YEAR 1907, WITH DEPARTURES FROM THE NORMAL—(Concluded).

Stations	January.		February.		March.		April.		May.		June.		July.		August.		Sept.		October.		Nov.		Dec.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
Ovando	2.61	+0.89	1.71	+0.31	0.78	—0.46	1.05	+0.17	0.59	—1.89	3.18	+0.70	0.56	—0.42	1.12	+0.18	0.85	—0.38	0.01	—1.03	0.56	—1.24	1.23	—0.75	14.25	—3.92
Philipsburg	1.13	.....	1.00	.....	0.91	.....	0.90	.....	0.84	.....	4.81	.....	2.32	.....	1.63	.....	1.15	.....	0.62	.....	0.10	—0.86	0.17	—0.32	15.58	.....
Plains	1.80	+1.01	0.45	—0.18	0.43	+0.14	0.60	+0.04	0.08	—1.90	2.00	+0.47	2.69	+1.32	1.05	—0.01	1.18	—0.03	T.	—0.81	0.15	—1.13	0.30	—0.48	10.73	—1.56
Polson	0.73	.....	0.94	.....	1.19	.....	0.16	.....	0.31	.....	2.72	.....	0.72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pleasant Valley	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Raymond	1.06	.....	0.30	.....	1.54	.....	1.31	.....	2.25	.....	5.91	.....	1.49	.....	2.94	.....	2.94	.....	0.00	.....	1.14	.....	0.14	.....	.....	.....
Red Lodge	0.49	—0.48	0.80	—0.01	1.60	—1.08	2.06	—0.80	4.28	—0.10	3.31	+0.54	2.55	+1.08	1.35	+0.24	2.94	+2.15	1.13	+0.10	0.73	+0.29	0.29	—0.22	21.02	+1.52
Renova	0.50	+0.14	0.54	+0.05	1.25	+0.78	0.40	—1.11	1.85	+0.04	3.91	+2.19	3.38	+2.31	1.27	+0.46	1.52	+0.73	0.89	+0.06	0.12	—0.11	0.05	—0.32	15.68	+5.19
Saltese	6.79	.....	3.50	.....	4.22	.....	1.65	.....	0.13	.....	1.90	.....	1.42	.....	2.05	.....	2.40	.....	0.20	.....	3.45	.....	4.75	.....	32.46	.....
Snowshoe	.....	.....	6.44	.....	6.74	.....	7.77	.....	2.25	.....	5.98	.....	1.68	.....	5.05	.....	3.24	.....	0.95	.....	9.03	.....	.....	.....	49.13	.....
Toston	.....	.....	.....	.....	0.61	.....	0.30	.....	1.63	—1.30	2.86	+1.00	1.70	+0.56	1.28	+0.68	0.69	+0.27	0.44	+0.33	T.	—0.53	0.65	+0.18	.....	.....
Townsend	.....	.....	.....	.....	0.52	.....	0.20	.....	0.97	.....	4.07	.....	1.75	.....	1.99	.....	0.93	.....	0.26	.....	.....	.....	.....	.....	.....	.....
Troy	1.83	—0.68	1.55	—0.25	3.35	+1.33	2.65	+1.33	1.42	—0.65	2.33	+0.38	1.87	+0.47	1.71	+0.76	2.33	+0.54	0.50	—1.09	2.31	—1.78	.....	.....	.....	.....
Twin Bridges	0.30	+0.06	.....	.....	0.80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Upper L. M'Donald.	4.98	.....	4.06	.....	2.53	.....	0.97	.....	2.31	.....	4.36	.....	2.15	.....	2.89	.....	2.19	.....	0.37	.....	1.61	.....	3.16	.....	31.58	.....
Utica	1.34	+0.74	0.08	—0.21	0.61	—0.12	0.43	—0.76	3.21	+0.82	6.75	+3.46	3.51	+1.33	1.47	+0.18	0.73	—0.25	0.20	—0.54	T.	—1.01	T.	—0.59	18.33	+3.55
Wolf Creek	0.87	.....	1.14	.....	0.42	—0.52	0.93	—0.11	1.56	—0.77	3.75	+0.98	3.15	+1.51	0.85	.....	0.40	—0.48	0.13	—0.32	0.00	—0.81	.....	.....	.....	.....
Yale	2.05	+1.37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

† Incomplete.

ASSESSED VALUATIONS.

Table Showing the Total Assessed Valuation of All Classes of Property After Equalization by the State and County Boards of Equalization for the Year 1908.

COUNTIES.	Acres of Land.	Real Estate and Improvements, Telegraph and Telephone Lines, Mining and Irrigating Ditches, Depots, Round Houses, Stations, Grounds.	Live Stock.	Personal Property other than Live Stock.	Railroads, except Railroad Lands, Gravel Beds, Station Grounds, Depots and Round Houses.	Grand Total.
Beaverhead	355,612	$ 2,820,975	$1,866,163	$ 852,219	$1,380,345	$ 6,919,702
Broadwater	211,890	1,119,904	469,836	329,407	759,231	678,378
Carbon	216,590	2,765,359	1,048,436	868,795	632,113	5,314,703
Cascade	940,307	11,976,569	1,452,190	2,865,561	1,850,643	18,144,963
Chouteau	595,674	3,551,931	2,938,234	1,296,459	4,846,008	12,632,632
Custer	1,451,825	4,038,859	3,881,940	1,398,966	1,872,345	11,192,110
Dawson	962,375	1,774,688	2,405,086	579,678	1,127,753	5,887,205
Deer Lodge	111,655	5,791,086	143,950	2,013,469	687,058	8,638,563
Flathead	1,226,343	7,331,525	358,599	1,635,679	4,168,310	13,494,113
Fergus	1,135,237	5,745,290	2,765,456	1,738,744	616,403	10,865,893
Gallatin	629,468	6,802,165	948,885	1,229,989	1,582,463	10,563,502
Granite	181,397	1,054,444	344,205	405,793	603,791	2,408,233
Jefferson	227,249	1,720,277	403,330	1,083,856	1,925,437	5,132,900
Lewis and Clark	518,434	11,924,630	948,650	4,730,666	1,709,229	19,313,175
Madison	485,598	3,114,188	1,209,057	1,270,163	715,911	6,309,319
Meagher	760,578	1,965,374	1,341,689	679,818	882,495	4,869,376
Missoula	742,845	6,666,473	387,032	2,749,448	2,738,167	12,541,120
Park	545,051	3,640,250	726,665	1,172,195	1,159,777	6,698,887
Powell	560,883	1,923,942	611,828	450,487	1,166,773	4,153,030
Ravalli	350,077	3,102,250	396,690	797,553	463,749	4,760,242
Rosebud	1,040,159	2,138,206	2,100,352	504,287	1,761,344	6,504,189
Sanders	328,342	1,373,771	98,161	446,467	1,973,365	3,891,764
Silver Bow	87,433	18,153,295	231,160	12,719,070	1,827,033	32,930,558
Sweet Grass	614,416	1,931,679	1,406,901	444,952	920,650	4,704,182
Teton	398,739	2,203,584	1,500,530	475,897	2,200,878	6,380,889
Valley	82,242	1,230,909	1,312,724	651,865	3,576,339	6,771,837
Yellowstone	986,468	8,453,616	1,716,060	2,108,272	2,795,379	15,073,327
	15,746,887	$124,318,239	$33,013,809	$45,499,755	$15,942,989	$248,774,792
Same property 1907		$116,723,409	$32,531,152	$58,811,841	$43,816,035	$251,882,437

PENITENTIARY STATISTICS--1896 to 1907.

STATEMENT SHOWING THE NUMBER OF COMMITMENTS TO THE STATE PENITENTIARY BY COUNTIES FROM 1896 TO 1907 INCLUSIVE; ALSO THE TOTAL NUMBER OF PRISONERS DISCHARGED EACH YEAR.

Tracing Number.	Year.	Beaverhead.	Broadwater.	Carbon.	Cascade.	Chouteau.	Custer.	Dawson.	Deer Lodge.	Fergus.	Flathead.	Gallatin.	Granite.	Jefferson.	Lewis and Clark.	Madison.	Meagher.	Missoula.	Park.	Powell.	Ravalli.	Rosebud.	Sanders.	Silver Bow.	Sweet Grass.	Teton.	Valley.	Yellowstone.	U. S. Court.	Total.	Discharged by Reason of: Expiration of Sentence.	Diminution of Sentence.	Pardon.	Order of Court.	Escaped.	Died.	Transferred to Insane Asylum	Total Discharged.	Tracing Number.
1	1896 E	2	..	2	27	11	14	..	13	..	10	8	3	9	12	2	1	15	2	..	3	..	..	28	3	1	1	2	..	169	149	....	27	2	1	3	....	182	1
2	1897	5	1	4	17	12	14	1	17	2	5	6	3	7	25	8	..	8	1	..	2	..	..	18	6	1	2	9	..	174	39	90	18	3	1	..	....	151	2
3	1898	3	..	3	9	7	20	3	23	4	18	6	1	4	13	6	1	12	4	..	4	..	..	19	6	3	5	13	..	197	33	101	28	4	4	3	....	173	3
4	1899	5	..	..	12	15	3	1	14	5	9	4	..	2	13	..	3	9	7	..	5	..	..	29	..	3	3	6	..	148	60	101	10	1	..	4	1	177	4
5	1900	..	2	4	15	17	2	2	14	6	6	..	1	5	22	4	2	6	9	..	1	..	..	23	1	..	8	5	2	158	58	66	29	3	..	..	....	156	5
6	1901	7	1	2	20	17	4	5	11	10	13	1	..	4	18	4	3	9	4	..	3	..	..	42	3	6	4	13	5	209	103	9	9	5	4	5	....	135	6
7	1902	5	1	5	14	26	3	8	11	13	7	4	1	5	22	4	2	1	14	7	3	..	6	..	26	4	1	4	14	2	209	133	1	8	2	..	3	....	147	7
8	1903	8	1	8	13	23	8	6	1	9	7	6	1	1	6	4	1	13	9	..	1	2	..	22	2	5	4	9	1	174	164	1	18	..	4	..	1	188	8
9	1904	2	..	..	2	16	12	6	9	13	11	11	8	..	6	1	2	16	15	..	3	2	..	20	2	5	2	12	3	192	175	1	10	4	..	..	2	192	9
10	1905	8	..	..	10	15	7	6	1	9	10	15	1	2	9	8	1	12	8	1	2	8	..	18	7	5	7	3	8	6	182	169	1	8	2	..	2	187	10
11	1906	8	1	5	8	16	5	4	5	9	7	12	2	4	6	3	..	4	9	3	1	3	2	40	5	4	7	15	12	200	184	3	7	1	..	1	1	197	11
12	1907	6	1	3	13	10	6	6	8	11	16	18	2	5	22	2	..	21	7	6	3	4	7	19	2	5	4	17	5	231	185	23	15	10	2	1	2	238	12
13	Total committed 1896 to 1907	59	8	41	160	185	98	48	137	91	119	91	22	18	174	43	17	139	82	13	28	25	9	304	44	41	56	124	36	2243	1452	397	187	37	16	25	9	2123	13
14	Total in confinement Dec. 31, 1895	12	..	2	38	21	19	1	21	5	6	7	3	9	40	5	6	19	12	..	7	..	..	69	2	7	7	20	..	338									14
15	Grand total	71	8	43	198	206	117	49	158	96	125	98	26	57	214	48	23	158	94	13	35	25	9	373	46	48	63	144	36	2581									15

PENITENTIARY STATISTICS 1906.

STATEMENT SHOWING BY COUNTIES THE OFFENSES FOR WHICH PRISONERS WERE COMMITTED TO THE MONTANA STATE PRISON DURING 1906.

Offense for which committed.	Beaverhead.	Broadwater.	Carbon.	Cascade.	Chouteau.	Custer.	Dawson.	Deer Lodge.	Fergus.	Flathead.	Gallatin.	Granite.	Jefferson.	Lewis and Clark.	Madison.	Meagher.	Missoula.	Park.	Powell.	Ravalli.	Rosebud.	Sanders.	Silver Bow.	Sweet Grass.	Teton.	Valley.	Yellowstone.	U. S. Court.	Total.	Percentage of commitments during 1906, classified by crime.
Assault	1	...	1	...	1	...	...	3	1	2	3	...	1	...	...	...	...	...	1	1	...	...	8	...	...	...	1	...	24	12.00
Arson	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	.50
Burglary	...	...	...	4	1	2	2	1	1	2	3	1	...	1	...	...	...	...	1	...	2	...	7	...	2	1	4	...	35	17.50
Forgery	1	1	...	...	1	1	2	...	...	1	1	...	1	1	...	...	...	1	1	...	...	...	3	...	...	...	1	3	19	9.50
Grand Larceny	5	...	2	2	11	2	...	...	3	...	4	1	2	1	2	...	...	8	...	...	...	...	7	4	1	5	4	7	71	35.50
Injury to Jail	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	1.00
Manslaughter	...	...	...	2	...	...	...	...	1	...	...	...	...	3	...	...	1	...	...	...	...	...	2	1	...	...	1	...	11	5.50
Murder	...	...	1	...	1	...	...	...	1	1	...	...	...	...	...	...	1	...	...	...	...	2	2	...	1	...	1	...	11	5.50
Rape	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	1.00
Robbery	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	11	...	...	1	...	...	15	7.50
Sodomy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	.50
Uttering Fictitious Checks	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	3	1.50
Perjury	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	.50
Felony	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1.00
Poisoning Stock	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	.50
Mailing Obscene Letter	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	.50
Total committed during 1906	8	1	5	8	16	5	4	5	9	7	12	2	4	6	3	...	4	9	3	1	3	2	40	5	4	7	15	12	200	100.00
Total in confinement Dec. 31, 1905	14	1	11	16	48	15	12	11	19	24	24	11	2	39	18	2	15	31	2	6	1	...	70	15	10	10	24	8	462	
Grand total	22	2	16	24	64	20	16	16	28	31	36	13	6	45	21	2	19	40	5	7	7	2	110	20	14	17	39	20	662	
Discharged by expiration	6	...	4	14	20	1	...	8	14	14	15	...	1	9	2	1	11	11	1	...	2	...	18	5	6	5	11	5	184	
Discharged by communtation	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	1	...	3	
Discharged by pardon	1	1	...	1	...	...	...	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	7	
Discharged by order of court	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	
Discharged by insane	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Discharged by death	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	
Total discharges	7	1	4	15	20	1	...	8	14	14	17	...	1	11	2	1	12	11	1	...	2	...	21	5	7	5	12	5	197	
Total in confinement Dec. 31, 1906	15	1	12	9	44	19	16	8	14	17	19	13	5	34	19	1	7	29	4	7	5	2	89	15	7	12	27	15	465	

PENITENTIARY STATISTICS 1907

STATEMENT SHOWING BY COUNTIES THE OFFENSES FOR WHICH PRISONERS WERE COMMITTED TO THE MONTANA STATE PRISON DURING 1907.

Offense for which committed.	Beaverhead.	Broadwater.	Carbon.	Cascade.	Chouteau.	Custer.	Dawson.	Deer Lodge.	Fergus.	Flathead.	Gallatin.	Granite.	Jefferson.	Lewis and Clark.	Madison.	Meagher.	Missoula.	Park.	Powell.	Ravalli.	Rosebud.	Sanders.	Silver Bow.	Sweet Grass.	Teton.	Valley.	Yellowstone.	U. S. Court.	Total.	Percentage of commitment during 1907, classified by crime.
Attempt to Pass Fictitious Bank Note	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	.43
Assault	1	...	...	1	1	1	...	1	...	1	2	...	...	...	...	1	1	...	...	1	...	...	6	...	...	...	2	19	8.22
Bribery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	.43
Burglary	1	...	...	7	2	...	...	...	3	5	4	...	3	6	1	...	3	...	...	...	...	6	1	...	...	1	2	45	19.48
Escaping from State Prison	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	.43
Embezzlement	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	.43
Felony	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	.86
Forgery	3	...	...	1	2	3	...	2	3	3	3	...	1	2	...	...	2	...	...	...	...	...	1	1	...	1	6	34	14.72
Grand Larceny	1	1	1	2	4	2	3	2	3	7	5	2	1	5	...	...	9	5	3	2	3	...	3	...	3	1	7	75	32.52
Importing Women for Immoral Purposes	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	.86
Injury to Jail	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	.43
Manslaughter	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	1	...	...	...	...	...	...	4	...	...	...	2	9	3.90
Murder, second degree	...	...	1	...	...	...	...	2	...	...	...	...	...	1	...	...	...	1	...	...	1	...	1	...	...	...	...	7	3.03
Rape	...	...	1	1	...	...	1	1	...	...	1	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	7	3.03
Rape, Attempted	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	.43
Receiving Stolen Property	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	2	.86
Robbery	...	...	...	1	...	...	...	...	...	...	...	...	...	7	...	...	6	...	2	...	...	...	2	...	1	...	...	19	8.22
Uttering Fictitious Checks	...	...	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1.29
Killing Game Out of Season	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	.43
Total committed during 1907	6	1	3	13	10	6	6	8	11	16	18	2	5	22	2	2	21	7	6	3	4	7	19	2	5	4	17	5	231	100.00
Total in confinement Dec. 31, 1906	15	1	12	9	44	19	16	8	14	17	19	13	5	34	19	1	7	29	4	7	5	2	89	15	7	12	27	15	465	
Grand total	21	2	15	22	54	25	22	16	25	33	37	15	10	56	21	3	28	36	10	10	9	9	108	17	12	16	44	20	696	
Discharged by expiration	6	1	6	8	27	7	8	6	9	8	6	1	...	8	5	1	5	9	2	2	2	1	26	3	4	6	9	9	185	
Discharged by parole	...	...	...	1	3	...	...	...	2	...	2	...	3	3	1	...	2	1	...	...	1	...	2	...	1	...	1	...	23	
Discharged by pardon	1	...	...	...	3	1	...	1	...	...	2	...	2	1	...	...	...	...	...	1	...	...	3	...	...	...	...	...	15	
Discharged by order of court	...	...	...	...	...	...	...	...	2	...	2	...	...	1	...	...	...	...	...	...	...	...	4	1	...	...	...	...	10	
Discharged by insane	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	
Discharged by death	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Escaped	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	
Total discharged	8	1	6	10	33	8	8	7	13	8	13	2	5	13	6	1	7	10	3	3	3	1	35	4	5	6	10	9	238	
Total in confinement Dec. 31, 1907.	13	1	9	12	21	17	14	9	12	25	24	13	5	43	15	2	21	26	7	7	6	8	73	13	7	10	34	11	458	

INSANE ASYLUM STATISTICS.

Statement of Commitments to the State Insane Asylum at Warm Springs During the Year 1906.

COUNTIES.	Primary Mental Deterioration.	Mania.	Melancholia.	Primary Dementia.	Secondary Dementia.	Primary Confusional Insanity.	Secondary Confusional Insanity.	Chronic Confusional Insanity.	Primary Delusional Insanity.	Secondary Delusional Insanity.	Chronic Delusional Insanity.	Paranoia.	Epileptic.	Stuperous Insanity.	Alcoholic Dementia.	Paretic Dementia.	Hysterical Insanity.	Senile Dementia.	Imbecility.	Idiocy.	Acute Mania.	Under Observation.	Dementia Precox.	Catatonia.	Total Committed During the Year 1906.	Percentage of Commitments from Each County.	Number Discharged Recovered.	Number Discharged Improved.	Number Died.	Number Escaped.	Total Number in Asylum Dec. 31, 1906.
Beaverhead	1								1									1							3	1.52	1	1	2		15
Broadwater		1	2																			1			4	2.02		3	1		4
Carbon			2						2																5	2.53	1				12
Cascade	2	1	4				1		3	1		1						1							15	7.58	4	1	2	4	53
Chouteau	1							1	1									1				1			5	2.53			2	2	16
Custer	1		1							1	1	1						2		1					8	4.04	1	2	1	1	12
Dawson			1						1																2	1.00	1				8
Deer Lodge			3						3	1								2						1	10	5.05	3	5	1	2	65
Fergus	3	1	4						1			2						1							12	6.06	3		2	1	18
Flathead	1				1				1																3	1.52	3	2	1		17
Gallatin			1						1		1							1					1		5	2.53	4		1		40
Granite	1		1						1									1							4	2.02	1		2	2	6
Jefferson			2	1					1									2							6	3.03		1	1		20
Lewis and Clark		1	1		1				5		1	3		1			1	2	1				1		17	8.59	2	3	2	2	73
Madison									1									2					1		4	2.02		2	1		13
Meagher		1											1						2						4	2.02	1			1	13
Missoula		1	7						4	1	1	1	3					2							20	10.10	3	4	6	2	58
Park		2	2						2	1			1												8	4.04	1	2	1	1	13
Powell			1						2																3	1.52	1	2	1	2	5
Ravalli		1	2						2	1							1	2							9	4.55	1	2	1	1	16
Rosebud			1																						1	.50	1				2
Silver Bow	1	8	10	1					11	1	1		2		1			4			1				41	20.70	12	13	13	1	101
Sweet Grass																													1		5

INSANE ASYLUM STATISTICS.

Statement of Commitments to the State Insane Asylum at Warm Springs During the Year 1906.—(Concluded).

COUNTIES.	Primary Mental Deterioration.	Mania.	Melancholia.	Primary Dementia.	Secondary Dementia.	Primary Confusional Insanity.	Secondary Confusional Insanity.	Chronic Confusional Insanity.	Primary Delusional Insanity.	Secondary Delusional Insanity.	Chronic Delusional Insanity.	Paranoia.	Epileptic.	Stuperous Insanity.	Alcoholic Dementia.	Paretic Dementia.	Histerical Insanity.	Senile Dementia.	Imbecility.	Idiocy.	Acute Mania.	Under Observation.	Dementia Precox.	Catatonia.	Total Committed During the Year, 1906.	Percentage of Commitments from Each County.	Number Discharged Recovered.	Number Discharged Improved.	Number Died.	Number Escaped.	Total Number in Asylum Dec. 31, 1906.
Teton	....	....	....	....	....	....	....	....	1	....	....	..	..	..	..	..	..	....	..	..	..	..	..	..	1	.50	....	....	1	1	10
Valley	....	....	....	....	....	....	....	....	....	....	....	..	..	..	..	..	1	....	..	..	..	..	..	..	1	.50	1	....	1	..	.....
Yellowstone	1	....	1	....	....	....	....	....	2	....	....	..	1	..	..	..	..	1	..	..	..	..	..	..	6	3.03	3	....	1	1	22
State Penitentiary	....	....	....	....	....	....	....	....	....	....	....	..	..	..	..	..	..	1	..	..	..	..	..	..	1	.50	....	....	1	..	15
United States Penitentiary	....	....	....	....	....	....	....	....	....	....	....	..	..	..	..	..	..	....	..	..	..	..	..	..	.....	.....	....	....	1	..	1
Total committed during 1906	12	17	46	2	2	1	1	1	46	7	5	4	12	1	1	..	3	26	4	2	1	1	2	1	198	100.00	48	43	47	24	623
Total in Asylum, Dec. 31, 1905	18	23	102	9	7	8	....	14	106	42	112	13	30	10	..	4	4	25	15	44	..	1	..	..	587						
Grand total confined	30	40	148	11	9	9	1	15	152	49	117	17	42	11	1	4	7	51	19	46	1	2	2	1	785						
Number discharged 1906	10	6	22	2	1	....	....	....	25	5	1	2	3	..	..	..	3	6	2	2	..	..	1	..	91						
Number escaped 1906	1	3	3	1	....	1	....	1	9	1	....	2	1	..	..	..	..	..	1	..	..	..	..	..	24						
Number died 1906	....	5	8	2	....	1	....	....	2	1	3	..	9	1	..	2	..	9	2	2	..	..	..	..	47						
Total discharged, escaped and died 1906	11	14	33	5	1	2	....	1	36	7	4	4	13	1	..	2	3	15	5	4	..	..	1	..	162						
Total patients in Asylum, Dec. 31, 1906	19	26	115	6	8	7	1	14	116	42	113	13	29	10	1	2	4	36	14	42	1	2	1	1	623						

INSANE ASYLUM STATISTICS.

Statement of Commitments to the State Insane Asylum at Warm Springs During the Year 1907.

COUNTIES.	Primary Mental Deterioration.	Mania.	Melancholia.	Primary Dementia.	Secondary Dementia.	Primary Confusional Insanity.	Secondary Confusional Insanity.	Chronic Confusional Insanity.	Primary Delusional Insanity.	Secondary Delusional Insanity.	Chronic Delusional Insanity.	Paranoia.	Epileptic.	Traumatic Insanity.	Stuporous Insanity.	Alcoholic Dementia.	Syphilitic Dementia.	Paretic Dementia.	Hysterical Insanity.	Senile Dementia.	Imbecility.	Idiocy.	Acute Mania.	Dementia Precox.	Catatonia.	Under Observation.	Morphine Intoxication.	Total Number in Asylum Dec. 31, 1907.	Number Escaped.	Number Died.	Number Discharged Improved.	Number Discharged Recovered.	Percentage of Commitments from Each County.	Total Committed During the Year 1907.
Beaverhead			1						2						1	1		1										7		4		3	2.73	6
Broadwater																												1		1				
Carbon			1																									5		2	2	1	.46	1
Cascade		1							4	1								1	1									14		4	6	4	3.65	8
Chouteau			1		1				1	1																	1	4		1			2.28	5
Custer			1										1							1								4		3	1		1.37	3
Dawson									4																			3		2	1		1.83	4
Deer Lodge		3	3						5	1							2			2				1				13		2	1	5	7.76	17
Fergus									7				1				2					1	1	1				8		1	2	1	4.57	10
Flathead									5							1								1				3		1			3.20	7
Gallatin		1		1					1																			13		9	3	1	1.37	3
Granite									1																								.46	1
Jefferson			2											1						1		3						5		2	1	2	3.20	7
Lewis and Clark		1	5						8	2		1	1							4								15		6	4	5	10.04	22
Madison		1														1					1		1					3		1	1		1.83	4
Meagher										1						2				1			1					3		1		1	2.28	5
Missoula		3	5						6	1	1					2				3			1					23		4	3		10.04	22
Park	1		1						4	1			1			2	1										1	10		1	1	2	5.48	12
Powell		2							1							2												2		2			2.28	5
Ravalli									3									1		3	1		2				1	8		3		4	5.03	11
Rosebud		1																										1				1	.46	1

INSANE ASYLUM STATISTICS.

Statement of Commitments to the State Insane Asylum at Warm Springs During the Year 1907.—(Concluded).

COUNTIES.	Primary Mental Deterioration.	Mania.	Melancholia.	Primary Dementia.	Secondary Dementia.	Primary Confusional Insanity.	Secondary Confusional Insanity.	Chronic Confusional Insanity.	Primary Delusional Insanity.	Secondary Delusional Insanity.	Chronic Delusional Insanity.	Paranoia.	Epileptic.	Traumatic Insanity.	Stuporous Insanity.	Alcoholic Dementia.	Syphilitic Dementia.	Paretic Dementia.	Hysterical Insanity.	Senile Dementia.	Imbecility.	Idiocy.	Acute Mania.	Dementia Præcox.	Catatonia.	Under Observation.	Morphine Intoxication.	Total Committed During the Year 1907.	Percentage of Commitments from Each County.	Number Escaped.	Number Died.	Number Discharged Improved.	Number Discharged Recovered.	Total Number in Asylum Dec. 31, 1907.
Silver Bow	1	5	4	..	1	....	....	....	8	4	....	1	..	..	..	4	..	3	..	4	1	..	..	2	..	..	..	38	17.35	4	17	17	2	40
Sweet Grass	....	..	....	..	..	....	....	....	1	....	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	.46	1	....	..	..	1
Teton	....	..	....	..	..	....	....	....	....	....	....	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	.46	1	1	..	..	2
Valley	....	..	1	..	..	....	....	....	3	....	1	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	7	3.20	1	1	..	..	2
Yellowstone	1	1	1	..	..	....	....	....	7	2	....	..	..	..	..	2	..	..	..	2	..	..	..	..	..	..	..	16	7.29	3	3	4	..	10
State Penitentiary	....	..	1	..	..	....	....	....	....	....	....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	.92	....	....	..	..	.....
Total committed during 1907	3	19	27	1	2	....	....	....	71	14	2	3	4	1	1	17	2	7	1	23	4	4	..	10	..	..	3	219	100.00	51	66	70	12	199
Total in Asylum Dec. 31, 1906	19	26	115	6	8	7	1	14	116	42	113	13	29	..	10	1	..	2	4	36	14	42	1	2	1	1	..	623	.....	....	....	..	..	
Grand total confined	22	45	142	7	10	7	1	14	187	56	115	16	33	1	11	18	2	9	5	59	18	46	1	12	1	1	3	842						
Number discharged 1907	3	10	24	..	1	1	....	....	40	8	3	1	5	1	..	6	..	1	..	7	1	2	..	1	1	..	1	117						
Number escaped 1907	....	..	1	..	1	....	....	....	5	1	1	..	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	12						
Number died 1907	....	10	3	2	..	....	1	3	5	1	10	..	6	..	2	1	..	7	..	14	2	3	..	..	..	..	..	70						
Total discharged, escaped and died, 1907	3	20	28	2	2	1	1	3	50	10	14	1	12	1	2	8	1	8	..	21	3	5	..	1	1	..	1	199						
Total patients in Asylum Dec. 31, 1907	19	25	114	5	8	6	0	11	137	46	101	15	21	0	9	10	1	1	5	38	15	41	1	11	0	1	2	643						

REVENUE FROM LICENSES.

Revenue from Licenses During the Fiscal Year Ended November 30, 1906, as Reported by County Treasurers.

COUNTIES.	Abstractors.	Attorneys.	Auctioneers.	Bankers.	Billiard Tables.	Bottling Works.	Bowling Alleys.	Brewers.	Builders, Manufacturers, etc.	Butchers.	Cigarette Selling.	Common Carriers.	Dentists.
Beaverhead	$	$	$	$	$ 45.00	$	$ 10.00	$ 70.00	$	$	$ 20.00	$ 35.00	$ 10.00
Broadwater		50.00		70.00	48.75					44.00			
Carbon		80.00	5.00	210.00	101.25	100.00		225.00		129.00			20.00
Cascade		405.00	5.00	250.00	26.25	240.00		450.00		417.00			125.00
Chouteau		115.00		15.00	36.25					81.00	20.00		55.00
Custer		125.00		80.00	161.25	100.00				(*)			40.00
Dawson		20.00		165.00	82.50		10.00						30.00
Deer Lodge		95.00		380.00	341.25			180.00	40.00	252.00	360.00		85.00
Fergus	40.00	215.00	30.00	180.00		50.00	10.00	90.00		216.00			50.00
Flathead	25.00	225.00	25.00	130.00				67.50		108.00			100.00
Gallatin	30.00	215.00	35.00	130.00	15.00		5.00	150.00		150.00	240.00		140.00
Granite		75.00		50.00	52.50			60.00		78.00			30.00
Jefferson		90.00		130.00			5.00	45.00		134.00			
Lewis and Clark		710.00		670.00	253.75	120.00		525.00	80.00	471.00	300.00		220.91
Madison		85.00		270.00	18.75			110.00		33.00		6.00	35.00
Meagher		50.00		20.00						63.00			
Missoula		45.00	10.00	30.00						138.00	140.00		80.00
Park		135.00		120.00	45.00	82.50				51.00	60.00		50.00
Powell		35.00		160.00				60.00		87.00			15.00
Ravalli		220.00	35.00	59.50			5.00						90.00
Rosebud		30.00		30.00	45.00					33.00	20.00		25.00
Sanders		55.00								18.00			20.00
Silver Bow		1,295.00	70.00	1,020.00	320.25	300.00	50.00	855.00	180.00	(*)	1,560.00		340.00
Sweet Grass		50.00			60.00		10.00			24.00			35.00
Teton		135.00	20.00	60.00	247.50				20.00	27.00			25.00
Valley		80.00		200.00	100.00					172.00			20.00
Yellowstone		90.00		200.00				300.00		192.00			20.00
Total	$ 95.00	$ 4,725.00	$ 235.00	$ 4,629.50	$ 2,000.25	$ 992.50	$ 105.00	$ 3,187.50	$ 320.00	$ 2,918.00	$ 2,720.00	$ 41.00	$ 1,660.91
Total for year 1905	20.00	4,835.00	150.00	4,255.00	2,179.50	100.00	325.00	3,372.50	310.00	2,940.00	2,489.00	65.00	1,780.50
Increase	75.00		85.00	374.50		892.50			10.00		231.00		
Decrease		110.00			179.25		220.00	185.00		22.00		24.00	119.59
Percentage paid by each business 1906	.01	.67	.03	.66	.28	.14	.01	.45	.01	.41	.38	.00	.23

(*) Included with Merchants.

REVENUE FROM LICENSES.

Revenue from Licenses During the Fiscal Year Ended November 30, 1906, as Reported by County Treasurers—(Continued).

COUNTIES.	Feed Corrals.	Hotels, Restaurants, Lodging Houses.	Insurance, Loans and Real Estate Agents.	Intelligence Offices.	Laundries (Chinese).	Laundries (Steam).	Liquor Selling at Retail (Saloons).	Liquor Selling at Wholesale.	Livery, Hacks, Express, etc.	Merchants.	Merry-go-rounds.	Pawnbrokers and Peddlers.	Photographers.
Beaverhead	$.....	$ 215.00	$ 125.00	.....	$ 70.00	$.....	$ 12,386.00	$.....	$ 162.00	$ 1,147.00	$.....	$.....	$.....
Broadwater	.....	155.00	.....	.....	.....	.....	5,170.00	.....	18.00	495.00	10.00	25.00	35.00
Carbon	.....	135.00	130.00	.....	.....	15.00	18,151.00	.....	182.00	1,647.00	.....	137.50	65.00
Cascade	32.00	880.00	290.00	.....	.....	130.00	46,783.00	.....	757.50	4,941.00	50.00	150.00	100.00
Chouteau	.....	405.00	25.00	.....	130.00	.....	23,804.00	.....	155.60	1,803.00	.....	25.00	.....
Custer	24.00	205.00	190.00	20.00	80.00	105.00	9,933.00	.....	120.00	849.00	30.00	.....	35.00
Dawson	.....	185.00	55.00	.....	20.00	60.00	6,336.00	.....	170.00	1,099.00	30.00	12.50	.....
Deer Lodge	.....	410.00	95.00	.....	70.00	75.00	28,820.00	1,100.00	454.50	2,457.00	.....	62.50	30.00
Fergus	.....	420.00	155.00	.....	60.00	60.00	19,866.00	264.00	320.00	2,265.00	.....	350.00	35.00
Flathead	184.00	249.00	115.00	.....	.....	120.00	22,088.00	.....	9.00	1,677.00	.....	12.50	20.00
Gallatin	32.00	265.00	380.00	.....	150.00	45.00	14,740.00	.....	385.00	2,247.00	.....	162.50	30.00
Granite	.....	120.00	.....	.....	20.00	.....	7,865.00	.....	87.00	693.00	.....	12.50	.....
Jefferson	.....	155.00	55.00	.....	20.00	.....	15,071.65	.....	110.00	735.00	.....	.....	.....
Lewis and Clark	.....	740.00	435.00	80.00	120.00	150.00	49,423.00	.....	781.50	6,139.00	.....	735.00	115.00
Madison	.....	280.00	.....	.....	40.00	.....	12,981.25	605.00	220.00	1,454.00	10.00	212.50	.....
Meagher	.....	80.00	20.00	.....	40.00	.....	5,170.00	.....	120.00	441.00	.....	.....	.....
Missoula	.....	20.00	25.00	.....	.....	.....	31,182.50	.....	191.00	1,933.00	50.00	25.00	.....
Park	32.00	165.00	55.00	.....	80.00	120.00	19,360.00	.....	104.00	1,076.00	.....	50.00	30.00
Powell	.....	160.00	.....	.....	50.00	.....	7,920.00	.....	148.00	1,023.00	.....	25.00	.....
Ravalli	.....	165.00	110.00	.....	50.00	50.00	7,843.00	165.00	174.00	1,407.00	.....	50.00	15.00
Rosebud	.....	79.00	89.00	.....	10.00	.....	3,465.00	.....	55.00	360.00	.....	25.00	.....
Sanders	.....	104.00	40.00	.....	.....	.....	3,135.00	.....	24.00	165.00	.....	12.50	.....
Silver Bow	8.00	4,780.00	1,040.00	100.00	820.00	225.00	150,678.00	4,110.00	750.00	16,610.00	50.00	3,307.50	180.00
Sweet Grass	.....	95.00	100.00	.....	100.00	.....	3,410.00	.....	60.00	535.00	.....	.....	.....
Teton	.....	315.00	25.00	.....	40.00	.....	9,020.00	165.00	160.00	801.00	.....	87.50	20.00
Valley	.....	275.00	180.00	.....	30.00	.....	13,266.00	.....	120.00	1,061.00	.....	25.00	.....
Yellowstone	.....	155.00	300.00	90.00	110.00	75.00	23,670.00	.....	235.00	2,201.00	.....	160.00	30.00
Total	$ 312.00	$ 11,212.00	$ 4,034.00	$ 290.00	$ 2,110.00	$ 1,230.00	$571,537.40	$ 6,409.00	$ 6,072.50	$ 57,281.00	$ 230.00	$ 5,665.00	$ 740.00
Total for year 1905	508.00	10,754.00	4,207.85	220.00	(¶)3,766.50	.....	543,476.00	.....	5,858.00	59,479.30	203.00	7,906.00	640.00
Increase	.....	458.00	.....	70.00	.....	1,230.00	28,061.40	6,409.00	214.50	....	27.00	.....	100.00
Decrease	196.00	.....	173.85	.....	1,656.50	.....	.....	.....	.....	2,198.30	.....	2,241.00	.....
Percentage paid by each business 1906	.04	1.58	.57	.04	.30	.17	80.42	.91	.86	8.06	.03	.80	.10

¶ Includes laundries of all kinds.

REVENUE FROM LICENSES.

Revenue from Licenses During the Fiscal Year Ended November 30, 1906, as Reported by County Treasurers—(Concluded).

COUNTIES.	Physicians and Surgeons.	Power and Light Companies.	Shows, Circuses, etc. (Excluding Theaters).	Shooting Galleries.	Street Railways.	Telegraph and Telephones.	Theaters.	Water Companies.	Weighing.	All Others.	Total.	Percentage of licenses collected by each county.
Beaverhead	$	$ 100.00	$ 125.00	$ 15.00	$	$ 79.50	$ 14.00	$	$ 10.00	$	$ 14,638.50	2.06
Broadwater	45.00	.....	9.00	.....	.....	24.00	.....	.....	.....	.....	6,198.75	.87
Carbon	75.00	75.00	116.00	.....	.....	89.25	.....	.....	.....	.....	21,688.00	3.05
Cascade	273.35	550.00	25.00	.....	.....	364.50	200.00	50.00	.....	55.00	57,549.60	8.10
Chouteau	120.00	.....	.....	.....	.....	38.25	32.00	.....	.....	.....	26,859.50	3.78
Custer	95.00	.....	137.00	.....	.....	106.50	.....	.....	.....	(†)55.00	12,490.75	1.76
Dawson	70.00	.....	125.00	.....	.....	.....	28.00	.....	10.00	5.00	8,513.00	1.20
Deer Lodge	275.00	100.00	284.00	.....	200.00	197.25	50.00	200.00	.....	10.00	36,623.50	5.15
Fergus	325.00	100.00	.....	.....	.....	250.50	12.00	.....	10.00	.....	25,373.50	3.57
Flathead	185.00	200.00	.....	.....	.....	137.25	8.00	.....	10.00	(‡)36.00	25,731.25	3.62
Gallatin	310.00	100.00	250.00	45.00	150.00	.....	100.00	.....	30.00	.....	20,531.50	2.90
Granite	85.00	.....	.....	.....	.....	27.00	6.00	.....	.....	10.00	9,271.00	1.31
Jefferson	80.00	.....	39.00	.....	.....	46.50	.....	.....	.....	.....	16,716.15	2.35
Lewis and Clark	340.00	400.00	125.00	.....	200.00	489.00	200.00	400.00	.....	35.00	64,258.16	9.04
Madison	90.00	.....	.....	.....	.....	54.00	.....	100.00	.....	2.00	16,606.50	2.34
Meagher	30.00	.....	39.00	.....	.....	.....	.....	.....	.....	.....	6,073.00	.85
Missoula	65.00	50.00	100.00	.....	.....	818.25	1,650.00	50.00	.....	.....	36,602.75	5.15
Park	160.00	37.50	125.00	15.00	.....	.....	56.00	100.00	.....	.....	22,109.00	3.11
Powell	25.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,708.00	1.37
Ravalli	230.00	.....	.....	.....	.....	.....	26.00	50.00	10.00	.....	10,754.50	1.51
Rosebud	20.00	.....	.....	30.00	.....	.....	24.00	.....	.....	30.00	4,370.00	.60
Sanders	35.00	.....	.....	.....	.....	.....	6.00	.....	.....	.....	3,614.50	.51
Silver Bow	1,175.00	600.00	455.00	.....	200.00	.....	1,050.00	600.00	20.00	(§)635.00	193,483.75	27.22
Sweet Grass	70.00	.....	.....	.....	.....	19.50	.....	.....	10.00	.....	4,598.50	.65
Teton	75.00	.....	20.00	.....	.....	105.00	.....	.....	.....	.....	11,368.00	1.60
Valley	120.00	.....	.....	.....	.....	42.00	.....	.....	20.00	6.75	15,717.75	2.21
Yellowstone	55.00	(**)600.00	80.00	.....	.....	359.25	325.00	.....	.....	.....	29,247.25	4.12
Total	$ 4,528.35	$ 2,912.50	$ 2,054.00	$ 165.00	$ 750.00	$ 3,247.50	$ 3,787.00	$ 1,550.00	$ 130.00	$ 879.75	$710,696.66	100.00
Total for year 1906	5,028.50	1,737.50	1,442.50	245.00	1,000.00	3,291.75	3,182.50	1,750.00	130.00	2,699.00	680,427.90	
Increase	.....	1,175.00	611.50	.....	.....	.....	604.50	.....	.....	.....	30,268.76	
Decrease	500.15	.....	.....	140.00	250.00	44.25	.....	200.00	.....	1,820.25	.....	
Percentage paid by each business 1906	.64	.41	.29	.01	.11	.45	.54	.22	.02	.12		

(§) Clairvoyant, $135; brokers, $350; skating rinks, $150.
(†) Ferry, $25; roller skating rink, $30. (‡) Ferry. (**) Water and light.

REVENUE FROM LICENSES.

Revenue from Licenses During the Fiscal Year Ended November 30. 1907, as Reported by County Treasurers.

COUNTIES.	Abstractors.	Attorneys.	Auctioneers.	Bankers.	Billiard Tables.	Bottling Works.	Bowling Alleys.	Brewers.	Builders, Manufacturers, etc.	Butchers.	Cigarette Selling.	Common Carriers.	Dentists.
Beaverhead	$	$	$	$	$ 75.00	$	$ 20.00	$ 10.00	$	$	$	$ 45.00	$
Broadwater				20.00	22.50					33.00			
Carbon		5.00		90.00	86.25			180.00		45.00			25.00
Cascade		280.00		65.00	146.25	180.00	10.00	450.00			20.00		220.00
Chouteau		25.00			296.25						10.00		15.00
Custer		110.00		20.00	150.00					36.00			50.00
Dawson		195.00		55.00	86.25						60.00		25.00
Deer Lodge		40.00		190.00	296.25			180.00	40.00	66.00	260.00		35.00
Fergus		160.00	10.00	55.00	67.50		30.00	45.00		69.00			75.00
Flathead		145.00	5.00	60.00			20.00	135.00		39.00			55.00
Gallatin	15.00	60.00	15.00	20.00	67.50		15.00	150.00		42.00	300.00		45.00
Granite		30.00		10.00	45.00			75.00		15.00			5.00
Jefferson		35.00		80.00				135.00		36.00			
Lewis and Clark		175.00		170.00	262.75	120.00	30.00	450.00	60.00	177.00	140.00		90.00
Madison		25.00		60.00	45.00			90.00		12.00			10.00
Meagher		20.00		40.00						18.00			
Missoula			5.00							57.00	60.00		
Park	16.00	60.00		50.00	101.25					33.00	70.90		20.00
Powell		37.50		80.00				60.00		39.00			
Ravalli					75.00		5.00					15.00	
Rosebud		10.00		95.00	60.00					6.00	60.00		
Sanders		20.00			15.00					9.00			
Silver Bow		550.00	10.00	255.00	375.00		75.00	840.00	560.00		1,650.00		105.00
Sweet Grass		15.00			48.75					9.00			5.00
Teton		25.00		30.00	228.75					12.00			5.00
Valley.		40.00		90.00	52.50					18.00			10.00
Yellowstone		45.00	10.00	150.00	30.00		15.00	300.00		51.00	330.00		10.00
Total	$ 31.00	$ 2,107.50	$ 55.00	$ 1,685.00	$ 2,632.75	$ 300.00	$ 220.00	$ 3,650.00	$ 660.00	$ 822.00	$ 2,960.00	$ 60.00	$ 745.00

REVENUE FROM LICENSES.

Revenue from Licenses During the Fiscal Year Ended November 30, 1907, as Reported by County Treasurers—(Continued).

COUNTIES.	Feed Corrals.	Hotels, Restaurants and Lodging Houses.	Insurance, Loan and Real Estate Agents.	Intelligence Offices.	Laundries (Steam).	Liquors Selling at Retail (Saloons).	Livery, Hacks, Express, etc.	Merchants.	Merry-go-rounds.	Pawnbrokers and Peddlers.	Photographers.	Physicians and Surgeons.
Beaverhead	$.....	$ 105.00	$ 55.00	$	$ 90.00	$ 15,567.00	$ 20.00	$ 633.00	$.....	$.....	$.....	$.....
Broadwater	.....	60.00	.....	.....	.....	4,290.00	80.00	189.00	.....	.....	5.00	.....
Carbon	.....	25.00	35.00	.....	.....	18,580.00	56.00	528.00	50.00	125.00	15.00	10.00
Cascade	8.00	440.00	130.00	.....	45.00	50,118.00	189.50	1,831.00	50.00	265.00	25.00	260.00
Chouteau	.....	95.00	.....	.....	110.00	23,936.00	35.00	498.00	.....	160.00	.....	45.00
Custer	16.00	80.00	55.00	.....	95.00	9,636.00	40.00	258.00	30.00	25.00	45.00	85.00
Dawson	.....	60.00	20.00	.....	65.00	8,250.00	55.00	363.00	.....	25.00	.....	120.00
Deer Lodge	.....	115.00	20.00	.....	95.00	28,050.00	93.50	576.00	.....	37.50	5.00	120.00
Fergus	.....	165.00	45.00	.....	75.00	19,206.00	198.00	816.00	.....	50.00	10.00	110.00
Flathead	32.00	105.00	60.00	.....	45.00	27,731.00	21.00	739.00	.....	12.50	5.00	125.00
Gallatin	8.00	115.00	95.00	.....	150.00	13,860.00	108.00	616.00	50.00	225.00	15.00	85.00
Granite	.....	55.00	.....	.....	.....	7,150.00	19.00	222.00	.....	.....	10.00	20.00
Jefferson	.....	75.00	40.00	.....	.....	15,565.00	45.00	390.00	.....	25.00	.....	70.00
Lewis and Clark	.....	120.00	75.00	150.00	80.00	49,923.00	255.00	1,603.00	.....	550.00	15.00	125.00
Madison	.....	65.00	.....	.....	10.00	14,135.00	90.00	412.00	10.00	50.00	.....	55.00
Meagher	.....	35.00	25.00	.....	30.00	5,885.00	35.00	132.00	.....	.....	.....	10.00
Missoula	.....	10.00	.....	.....	.....	35,658.35	114.00	674.00	.....	50.00	.....	.....
Park	24.00	113.50	15.00	.....	165.00	22,165.00	120.00	663.00	.....	62.50	30.00	95.00
Powell	.....	65.00	.....	.....	30.00	7,755.00	40.00	282.00	.....	57.50	.....	50.00
Ravalli	.....	10.00	.....	.....	20.00	7,194.00	9.00	12.00	.....	100.00	.....	.....
Rosebud	.....	8.00	10.00	.....	20.00	3,410.00	.....	71.00	10.00	25.00	.....	5.00
Sanders	.....	15.00	13.00	.....	.....	6,400.00	22.00	64.00	.....	25.00	.....	5.00
Silver Bow	16.00	1,385.00	550.00	160.00	850.00	144,782.00	195.00	4,602.00	.....	2,427.50	60.00	435.00
Sweet Grass	.....	35.00	25.00	.....	10.00	3,815.00	15.00	162.00	.....	50.00	.....	5.00
Teton	.....	100.00	10.00	.....	.....	8,395.00	60.00	258.00	.....	25.00	10.00	20.00
Valley	.....	70.00	25.00	.....	60.00	16,055.00	50.00	243.00	.....	.....	.....	45.00
Yellowstone	.....	75.00	100.00	200.00	255.00	27,790.00	65.00	940.00	.....	345.00	10.00	125.00
Total	$ 104.00	$ 3,601.50	$ 1,403.00	$ 510.00	$ 2,300.00	$595,220.35	$ 2,030.00	$ 17,834.00	$ 200.00	$ 4,717.50	$ 260.00	$ 2,025.00

REVENUE FROM LICENSES.

Revenue from Licenses During the Fiscal Year Ended November 30, 1907, as Reported by County Treasurers—(Concluded).

COUNTIES.	Power and Light Companies.	Shows, Circuses, etc. (Excluding Theaters).	Shooting Galleries.	Skating Rinks.	Street Railways.	Telegraph and Telephones.	Theaters.	Water Companies.	Weighing.	All Others.	Total.	Percentage of total licenses collected by each county.
Beaverhead	$ 100.00	$ 375.00	$ 15.00	$.....	$.....	$ 216.00	$ 9.00	$	$.....	$ 23.00	$ 17,367.00	2.60
Broadwater	.....	4.00	.....	.....	.....	20.25	.....	.....	.....	.....	4,723.75	.71
Carbon	75.00	103.00	15.00	.....	.....	266.25	.....	.....	.....	125.00	20,439.50	3.06
Cascade	300.00	.....	30.00	50.00	200.00	407.25	200.00	50.00	.....	4.50	55,974.50	8.37
Chouteau	147.50	.....	.....	.....	.....	43.50	75.00	.....	.....	.....	25,491.25	3.81
Custer	.....	140.00	.....	.....	.....	258.00	45.00	.....	.....	80.00	11,254.00	1.68
Dawson	.....	170.00	15.00	.....	.....	206.25	2.00	.....	.....	.....	9,772.50	1.46
Deer Lodge	100.00	135.00	15.00	100.00	200.00	240.00	300.00	200.00	.....	.....	31,509.25	4.71
Fergus	50.00	.....	15.00	.....	.....	426.00	30.00	.....	.....	60.00	21,707.50	3.25
Flathead	50.00	30.00	15.00	.....	.....	137.25	153.00	150.00	.....	.....	29,919.75	4.48
Gallatin	100.00	135.00	60.00	50.00	200.00	791.50	200.00	.....	.....	.....	17,593.00	2.63
Granite	.....	.....	.....	.....	.....	11.25	4.00	.....	.....	.....	7,671.25	1.15
Jefferson	.....	12.00	.....	.....	.....	.....	.....	.....	.....	.....	16,508.00	2.47
Lewis and Clark	400.00	10.00	30.00	.....	200.00	489.00	225.00	400.00	.....	252.50	56,577.25	8.46
Madison	.....	14.00	.....	.....	.....	69.75	.....	100.00	.....	.....	15,202.75	2.27
Meagher	.....	6.00	.....	.....	.....	.....	.....	.....	.....	.....	6,236.00	.93
Missoula	.....	67.50	.....	.....	.....	347.25	1,425.00	300.00	.....	.....	38,768.10	5.80
Park	50.00	135.00	15.00	.....	.....	435.75	105.00	100.00	.....	.....	24,644.00	3.69
Powell	.....	14.00	.....	.....	.....	141.75	.....	100.00	.....	.....	8,751.75	1.31
Ravalli	50.00	30.00	15.00	30.00	.....	53.25	10.00	50.00	.....	.....	7,678.25	1.15
Rosebud	.....	.....	.....	.....	.....	.....	68.00	.....	.....	.....	3,858.00	.58
Sanders	.....	.....	.....	.....	.....	23.50	8.00	50.00	.....	.....	6,669.50	1.00
Silver Bow	200.00	772.50	.....	.....	200.00	3,564.75	800.00	600.00	10.00	1,839.80	167,876.55	25.11
Sweet Grass	.....	3.00	15.00	.....	.....	21.75	.....	.....	.....	.....	4,234.50	.63
Teton	.....	.....	.....	.....	.....	.....	27.00	.....	.....	.....	9,115.75	1.36
Valley	.....	85.00	.....	.....	.....	56.25	.....	.....	.....	60.31	16,960.06	2.53
Yellowstone	300.00	165.00	.....	.....	.....	326.25	425.00	.....	.....	30.00	32,092.25	4.80
Total	$ 1,922.50	$ 2,406.00	$ 255.00	$ 230.00	$ 1,000.00	$ 8,552.75	$ 4,111.00	$ 2,100.00	$ 10.00	$ 2,475.11	$668,595.96	100.00

NATURALIZATIONS—1906.

Statement Showing by Counties the Number and Nativity of Persons to Whom Naturalization Papers Were Issued During the Year 1906, as Reported by Clerks of the District Courts.

COUNTIES.	Austria.	Belgium.	Bohemia.	Canada.	Denmark.	England.	Finland.	France.	Germany.	Greece.	Holland.	Ireland.	Italy.	Norway.	Russia.	Scotland.	Sweden.	Switzerland.	Wales.	All Other Countries	Total.	Percentage of persons naturalized in each county 1906.	Total 1905.	Percentage of persons naturalized in each county 1905.
Beaverhead				1	2	1											1				5	.48	7	2.07
Broadwater																					none			
Carbon	2		1	1		1	5						1	1			1				13	1.24	11	3.25
Cascade	11	1		14	2	8	10		6			3	3	2	1	2	6	1	1		71	6.75	47	13.81
Chouteau				11	2				1		1	2		1		3	3			1	31	2.94	31	9.10
Custer						1			4					4			1				10	.95	12	3.54
Dawson				1								1		4							6	.57	1	.30
Deer Lodge	7			5		2			1			13		7			13				48	4.56	5	1.48
Fergus	1			3	1	2			4			3		7		1	1	2			25	2.38	20	5.90
Flathead	4			17		2			3					5			8	1	1		41	3.90	18	5.31
Gallatin	1			2	1		1		1		1			2		1	1	1			12	1.14	3	.89
Granite				1			1					1					1			1	5	.48	1	.30
Jefferson				1																	1	.10	2	.60
Lewis and Clark	6			4	6	4	1		6			1		1	1	1	9			5	45	4.28	11	3.25
Madison				1		1			3								1				6	.57	5	1.48
Meagher						1			2					8		3					14	1.33	4	1.18
Missoula				28		6	10		3		1	1		10	3		10				72	6.84	15	4.40
Park	1			2		2		1	1			1		1							9	.85	7	2.07
Powell	1											1						1			3	.29	2	.60
Ravalli				3			1								2		2	1		1	10	.95	4	1.18
Rosebud				1					1					3		3					8	.76	1	.30
Sanders					1	6			1								2				10	.95		
Silver Bow	152	1	1	28	2	35	50	12	7	1		151	11	12		4	9	2	2	41	521	49.52	81	23.90
Sweet Grass	1			1		4								16							22	2.09	6	1.78
Teton				8		4			2		1	2		1		1	1				20	1.90	10	2.96
Valley				8	2				5				1	2			2				20	1.90	13	3.85
Yellowstone	1			1				3	1				3	7	1	3	1	2	1		24	2.28	22	6.50
Total	188	2	2	149	19	87	79	16	58	1	4	180	19	94	8	22	73	11	5	49	1052		339	100.00
Percentage of nationalities	17.87	.20	.20	13.50	1.80	7.60	7.51	1.52	5.51	.10	.36	17.11	1.81	8.93	.76	2.09	6.94	1.05	.48	4.66		100.00		

NATURALIZATIONS—1907.

Statement Showing by Counties the Number and Nativity of Persons to Whom Naturalization Papers Were Issued During the Year 1907, as Reported by Clerks of the District Courts.

COUNTIES.	Austria.	Belgium.	Bohemia.	Canada.	Denmark.	England.	Finland.	France.	Germany.	Holland.	Ireland.	Italy.	Norway.	Russia.	Scotland.	Sweden.	Switzerland.	Wales.	All other countries.	Total.	Percentage of persons naturalized in each county 1907.	Total 1906.	Percentage of persons naturalized in each county 1906.
Beaverhead	....	....	....	1	3	1	.....	.....	.....	.....	1	....	.....	.....	.....	2	....	....	....	8	2.42	5	.48
Broadwater	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.30	.....	.....
Carbon	5	....	....	2	1	2	6	.....	2	.....	1	1	8	.....	1	.....	.....	.....	.....	29	8.76	13	1.24
Cascade	4	....	....	5	.....	2	4	.....	1	.....	4	....	3	.....	.....	7	2	....	1	33	9.97	71	6.75
Chouteau	1	....	....	11	.....	.....	.....	.....	7	.....	1	....	1	1	1	.....	1	1	....	25	7.55	31	2.94
Custer	....	....	....	1	.....	1	.....	.....	1	.....	.....	....	1	.....	.....	.....	.....	.....	....	4	1.21	10	.95
Dawson	....	....	....	4	.....	.....	.....	.....	.....	.....	1	....	2	.....	1	2	.....	.....	....	10	3.02	6	.57
Deer Lodge	....	....	....	.....	.....	.....	.....	.....	1	.....	2	....	8	.....	.....	1	.....	.....	....	12	3.63	48	4.56
Fergus	2	....	1	1	1	.....	.....	.....	1	1	1	....	6	.....	2	2	3	.....	....	21	6.34	25	2.38
Flathead	2	....	....	14	1	.....	.....	.....	3	.....	2	1	8	.....	1	4	2	1	....	39	11.79	41	3.90
Gallatin	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	none	.....	12	1.14
Granite	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	none	.....	5	.48
Jefferson	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	....	1	.30	1	.10
Lewis and Clark	1	....	....	1	.....	1	.....	1	4	1	.....	....	.....	.....	.....	5	.....	.....	....	14	4.23	45	4.28
Madison	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	1	1	.....	....	2	.60	6	.57
Meagher	....	....	....	2	.....	.....	.....	.....	1	.....	.....	....	.....	.....	2	.....	.....	.....	....	5	1.51	14	1.33
Missoula	1	....	....	3	.....	2	.....	.....	.....	.....	1	....	.....	.....	.....	3	1	.....	....	11	3.32	72	6.84
Park	1	....	....	3	.....	1	.....	.....	1	.....	.....	....	2	.....	.....	1	.....	.....	....	9	2.72	9	.85
Powell	1	....	....	1	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	1	.....	.....	1	4	1.21	3	.29
Ravalli	....	....	....	.....	1	1	.....	.....	1	.....	.....	....	.....	.....	.....	.....	1	.....	....	4	1.21	10	.95
Rosebud	....	....	....	.....	.....	.....	.....	.....	1	.....	.....	....	1	.....	.....	.....	.....	.....	....	2	.60	8	.76
Sanders	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	....	none	.....	10	.95
Silver Bow	4	2	....	.....	1	35	.....	.....	5	1	.....	....	4	5	.....	5	1	.....	1	64	19.34	521	49.52
Sweet Grass	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	....	3	.....	.....	.....	.....	.....	....	3	.90	22	2.09
Teton	....	....	....	.....	.....	1	.....	2	2	2	1	....	1	1	1	.....	.....	.....	....	13	3.93	20	1.90
Valley	2	1	....	.....	.....	3	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	....	8	2.42	20	1.90
Yellowstone	....	....	....	.....	.....	1	.....	.....	3	.....	1	1	2	.....	1	.....	.....	.....	....	9	2.72	24	2.28
Total	24	3	1	49	10	51	10	3	34	5	16	4	50	8	11	35	12	2	3	331	.....	1052	100.00
Percentage of nationalities	7.25	.91	.30	14.80	3.02	15.41	3.02	.91	10.27	1.51	4.83	1.21	15.12	2.42	3.32	10.57	3.63	.60	.90		100.00		

NATURALIZATIONS—1894—1907.

Statement Showing the Number and Nativity of Persons Receiving Final Naturalization Papers, 1894 to 1907.

YEAR AND FROM WHAT COURT PAPERS WERE ISSUED.	Austria.	Belgium.	Bohemia.	Canada.	Cuba.	Denmark.	England.	Finland.	France.	Germany.	Holland.	Ireland.	Italy.	Norway.	Russia.	Sandwich Islands.	Scotland.	South America.	Sweden.	Switzerland.	Wales.	All Other Countries.	Total.
1894—State Courts	604	20	6	2,152	(*)	112	1,511	305	60	727	(*)	1,382	318	402	88	.....	263	.....	950	147	141	90	9,278
U. S. Courts	51	1	1	94	(*)	11	128	23	4	57	(*)	100	33	22	6	.....	15	.....	66	15	12	12	656
Total	655	21	7	2,246	(*)	123	1,639	328	64	784	(*)	1,482	356	424	94	.....	278	.....	1,016	162	153	102	9,934
1895—State Courts	4	1	.....	62	.....	15	35	2	5	39	(*)	31	4	26	6	.....	17	.....	29	7	1	3	287
1896—State Courts	253	6	.....	525	.....	45	341	102	22	286	(*)	381	127	192	169	.....	108	.....	329	34	37	86	3,043
U. S. Courts	1	.....	.....	1	.....	.....	2	.....	.....	3	.....	2	.....	1	.....	.....	.....	.....	.....	.....	.....	2	12
Total	254	6	.....	526	.....	45	343	102	22	289	(*)	383	127	193	169	.....	108	.....	329	34	37	88	3,055
1897—State Courts	13	.....	1	70	.....	12	51	1	6	59	(*)	65	6	29	5	.....	19	.....	37	7	4	23	408
U. S. Courts	.....	.....	.....	1	.....	.....	2	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
Total	13	.....	1	71	.....	12	53	1	7	60	(*)	65	6	29	5	.....	19	.....	37	7	4	23	413
1898—State Courts	354	9	3	352	.....	24	239	112	22	162	(*)	572	127	119	22	.....	84	.....	194	29	21	54	2,499
U. S. Courts	15	.....	.....	5	.....	.....	10	.....	.....	1	.....	15	3	.....	2	1	3	.....	3	.....	.....	.....	58
Total	369	9	3	357	.....	24	249	112	22	163	(*)	587	130	119	24	1	87	.....	197	29	21	54	2,557
1899—State Courts	17	3	10	81	.....	11	38	9	2	46	(*)	49	6	25	9	.....	15	.....	37	9	5	13	388
U. S. Courts	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Total	17	3	10	81	.....	11	39	9	2	46	(*)	49	6	25	9	.....	18	.....	37	9	5	13	389
1900—State Courts	645	17	2	562	1	47	408	217	19	268	(*)	740	222	189	54	.....	93	5	323	31	19	67	3,929
U. S. Courts	4	.....	.....	3	.....	.....	8	16	1	6	.....	15	4	2	.....	2	3	.....	3	2	.....	.....	69
Total	649	17	2	565	1	47	416	233	20	274	(*)	755	226	191	54	2	96	5	326	33	19	67	3,998

NATURALIZATIONS—1894—1907.

Statement Showing the Number and Nativity of Persons Receiving Final Naturalization Papers, 1894 to 1907—(Concluded).

YEAR AND FROM WHAT COURT PAPERS WERE ISSUED.	Austria.	Belgium.	Bohemia.	Canada.	Cuba.	Denmark.	England.	Finland.	France.	Germany.	Holland.	Italy.	Ireland.	Norway.	Russia.	Sandwich Islands.	Scotland.	South America.	Sweden.	Switzerland.	Wales.	All Other Countries.	Total.
1901—State Courts	13	5	1	64	.....	7	31	4	1	32	(*)	34	7	25	3	.....	8	.....	23	7	8	4	272
U. S. Courts	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Total	13	5	1	64	.....	7	31	4	1	32	(*)	34	7	25	3	.....	8	.....	23	8	8	4	273
1902—State Courts	282	6	1	322	.....	53	217	54	10	158	9	344	106	113	37	.....	44	.....	145	23	12	29	1,965
U. S. Courts	9	.....	.....	5	.....	1	13	.....	1	7	.....	20	12	3	1	1	8	.....	8	2	1	5	97
Total	291	6	1	327	.....	54	230	54	11	165	9	364	118	116	38	1	52	.....	153	25	13	34	2,062
1903—State Courts	18	1	1	75	.....	7	49	7	3	50	4	32	7	36	7	.....	15	.....	43	14	4	3	376
U. S. Courts	.....	.....	.....	3	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	2	.....	.....	.....	8
Total	18	1	1	78	.....	7	50	7	3	50	4	32	7	36	7	.....	17	.....	45	14	4	3	384
1904—State Courts	486	11	2	331	.....	39	241	261	20	114	8	398	194	143	39	.....	38	.....	173	17	16	60	2,621
1905—State Courts	13	1	.....	54	.....	6	30	10	4	45	2	33	7	31	4	.....	28	.....	35	7	1	28	339
1906—State Courts	182	2	2	142	.....	19	80	79	16	551	4	180	19	94	8	.....	22	.....	73	11	5	50	1,052
1907—State Courts	24	3	1	49	.....	10	51	10	3	34	5	16	4	50	8	.....	11	.....	35	12	2	3	331

(*) Included in "All Other Countries."
NOTE—No final naturalization papers were issued from the U. S. Courts in Montana in 1895, 1904, 1905, 1906 or 1907.

NATURALIZATIONS—1894—1907.

Statement Showing the Total Number of Final Naturalization Papers Issued in United States and State Courts of Montana, 1894 to 1907, Inclusive, Classified by Nativity.

Tracing Number.	YEAR.	Austria.	Belgium.	Bohemia.	Canada.	Cuba.	Denmark.	England.	Finland.	France.	Germany.	Holland.	Ireland.	Italy.	Norway.	Russia.	Sandwich Islands.	Scotland.	South America.	Sweden.	Switzerland.	Wales.	All Other Countries	Total.	Tracing Number.
1	1894	655	21	7	2,246	(*)	123	1,639	328	64	784	(*)	1,482	356	424	94	.....	273	.....	1,016	162	153	102	9,934	1
2	1895	4	1	.....	62	....	15	35	2	5	39	(*)	31	4	26	6	.....	17	.....	29	7	1	3	287	2
3	1896	254	6	.....	526	....	45	343	102	22	289	(*)	383	127	193	169	.....	108	.....	329	34	37	88	3,055	3
4	1897	13	.....	1	71	....	12	53	1	7	60	(*)	65	6	29	5	.....	19	.....	37	7	4	23	413	4
5	1898	369	9	3	357	....	24	249	112	22	163	(*)	587	130	119	24	1	87	.....	197	29	21	54	2,557	5
6	1899	17	3	10	81	....	11	39	9	2	46	(*)	49	6	25	9	.....	18	.....	37	9	5	13	389	6
7	1900	649	17	2	565	1	47	416	233	20	274	(*)	755	226	191	54	2	96	5	326	33	19	67	3,998	7
8	1901	13	5	1	64	....	7	31	4	1	32	(*)	34	7	25	3	.....	8	.....	23	8	3	4	273	8
9	1902	291	6	1	327	....	54	230	54	11	165	9	364	118	116	38	1	52	.....	153	25	13	34	2,062	9
10	1903	18	1	1	78	....	7	50	7	3	50	4	32	7	36	7	.....	17	.....	45	14	4	3	384	10
11	1904	486	11	2	331	....	39	241	261	20	144	8	398	194	143	39	.....	38	.....	173	17	16	60	2,621	11
12	1905	13	1	.....	54	....	6	30	10	4	45	2	53	7	31	4	.....	28	.....	35	7	1	28	339	12
13	1906	188	2	2	142	....	19	80	79	16	58	4	180	19	94	8	.....	22	.....	73	11	5	50	1,052	13
14	1907	24	3	1	49	....	10	51	10	3	34	5	16	4	50	8	.....	11	.....	35	12	2	3	331	14
15	Total	2,994	86	31	4,953	1	419	3,487	1,212	200	2,183	32	4,409	1,211	1,502	468	4	799	5	2,508	375	284	532	27,695	15

(*) Included in "All Other Countries."

DIVORCES—1906.

Comparative Statement Showing the Number of D ivorces Granted and Marriage Licenses Issued During the Years 1905 and 1906, as Reported by Clerks of the District Courts.

COUNTIES.	Granted upon Complaint of Wife.		Granted upon Complaint of Husband.		Total Divorces Granted.		Percentage of Divorces Granted in Each County.		Marriage Licenses Issued.		Percentage of Divorces Granted to Marriage Licenses Issued.	
	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.
Beaverhead	10	4	2	1	12	5	2.42	.96	33	44	36.36	11.36
Broadwater	2	.....	1	.....	3	.....	.60	.....	17	14	17.65	.....
Carbon	8	7	3	4	11	11	2.23	2.12	77	85	14.38	12.92
Cascade	27	22	12	7	39	29	7.88	5.58	204	220	19.12	13.19
Chouteau	14	7	5	8	19	15	3.84	2.88	79	88	24.05	17.04
Custer	9	9	2	4	11	13	2.22	2.56	53	47	20.76	27.66
Dawson	11	6	3	.....	14	6	2.82	1.15	27	57	51.85	10.53
Deer Lodge	10	7	10	7	20	14	4.04	2.69	117	121	17.09	11.57
Fergus	17	11	5	1	22	12	4.45	2.31	88	96	25.00	12.50
Flathead	42	32	13	10	55	42	11.12	8.08	127	135	43.31	23.70
Gallatin	15	19	3	2	18	21	3.64	4.04	143	115	12.60	18.26
Granite	2	1	2	.....	4	1	.81	.19	15	11	26.66	9.09
Jefferson	7	7	.....	3	7	10	1.41	1.92	26	25	27.00	40.00
Lewis and Clark	41	57	12	8	53	65	10.71	12.50	262	222	20.23	29.28
Madison	4	3	1	1	5	4	1.01	.77	46	38	10.87	10.53
Meagher	.....	1	1	.....	1	1	.20	.19	13	9	7.69	11.11
Missoula	29	22	7	5	36	27	7.28	5.19	200	173	13.00	15.61
Park	11	24	5	3	16	27	3.23	5.19	124	119	12.90	22.69
Powell	1	1	.....	.....	1	1	.20	.19	22	40	4.55	2.50
Ravalli	7	12	4	7	11	19	2.22	3.65	64	69	17.19	27.54
Rosebud	1	1	.....	1	1	2	.20	.39	26	22	3.85	9.09
Sanders	.....	4	.....	4	.....	8	.....	1.54	.....	12	.....	66.66
Silver Bow	71	112	21	28	92	140	18.60	26.92	730	711	12.60	19.69
Sweet Grass	2	2	1	.....	3	2	.60	.39	15	23	20.00	8.70
Teton	2	3	1	1	3	4	.60	.77	16	22	18.75	18.18
Valley	4	2	4	2	8	4	1.61	.77	47	59	17.00	6.78
Yellowstone	24	25	6	12	30	37	6.06	7.12	118	171	25.42	21.64
Total	371	401	124	119	495	520	.....	.....	2689	2748	18.41	18.92
Percentage	74.93	76.98	25.07	23.02	100.00	100.00	100.00	100.00				

DIVORCES—1907.

Comparative Statement Showing the Number of Divorces Granted and Marriage Licenses Issued During the Years 1906 and 1907 as Reported by Clerks of the District Courts.

COUNTIES.	Granted upon Complaint of Wife.		Granted upon Complaint of Husband.		Total Divorces Granted.		Percentage of Divorces Granted in Each County.		Marriage Licenses Issued.		Percentage of Divorces Granted to Marriage Licenses Issued.	
	1906.	1907.	1906.	1907.	1906.	1907.	1906.	1907.	1906.	1907.	1906.	1907.
Beaverhead	4	9	1	4	5	13	.96	2.33	44	51	11.36	25.49
Broadwater	.....	1	.....	1	.....	5	.....	.90	14	18	.....	27.78
Carbon	7	16	4	6	11	22	2.12	3.94	85	88	12.92	25.00
Cascade	22	29	7	2	29	31	5.58	5.56	220	252	13.19	12.30
Chouteau	7	9	8	5	15	14	2.88	2.51	88	90	17.04	15.55
Custer	9	10	4	2	13	12	2.50	2.15	47	80	27.66	15.00
Dawson	6	9	.....	3	6	12	1.15	2.15	57	71	10.53	16.90
Deer Lodge	7	23	7	3	14	26	2.69	4.66	121	122	11.57	21.31
Fergus	11	17	1	5	12	22	2.31	3.94	96	97	12.50	22.67
Flathead	32	37	10	15	42	52	8.08	9.32	135	152	23.70	34.21
Gallatin	19	14	2	5	21	19	4.04	3.40	115	142	18.26	13.38
Granite	1	2	.....	2	1	4	.19	.72	11	11	9.09	36.36
Jefferson	7	3	3	.....	10	3	1.92	.54	25	19	40.00	15.79
Lewis and Clark	57	39	8	19	65	58	12.50	10.39	222	278	29.28	20.86
Madison	3	5	1	1	4	6	.77	1.07	38	39	10.53	15.38
Meagher	1	2	.....	2	1	4	.19	.72	9	17	11.11	23.53
Missoula	22	21	5	8	27	29	5.19	5.20	173	229	15.61	12.66
Park	24	24	3	6	27	30	5.19	5.38	119	151	22.69	19.93
Powell	1	4	.....	1	1	5	.19	.90	40	38	2.50	13.16
Ravalli	12	4	7	3	19	7	3.65	1.25	69	95	27.54	7.37
Rosebud	1	.....	1	1	2	1	.39	.18	22	27	9.09	3.70
Sanders	4	6	4	3	8	9	1.54	1.61	12	18	66.66	50.00
Silver Bow	112	82	28	29	149	111	26.92	19.89	711	752	19.69	14.76
Sweet Grass	2	1	.....	2	2	3	.39	.54	23	31	8.70	96.77
Teton	3	1	1	1	4	2	.77	.36	22	30	18.18	66.66
Valley	2	6	2	3	4	9	.77	1.61	59	67	6.78	13.43
Yellowstone	25	33	12	16	37	49	7.12	8.78	171	232	21.64	21.12
Total	401	410	119	148	520	558	.....	.....	2748	3197	18.92	17.45
Percentage	76.98	73.48	23.02	26.52	100.00	100.00	100.00	100.00				

JAIL INCARCERATIONS—1906.

Statement of Persons Incarcerated in County Jails During 1906, as Reported by Sheriffs.

COUNTIES.	White.			Colored.			Indians (Including Half Breeds.)			Chinese and Japanese.			Total confined during year	Days Confined.		Offenses Charged.		Witnesses held.	Insane temporarily in charge of sheriff.	Percentage of incarcerations for each county to total incarcerations in the state, 1906.
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.		Total number of days all were confined.	Average number of days each was confined.	Misdemeanors.	Felonies.			
Beaverhead	53	.....	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	53	1,754	33.1	37	13	.....	3	1.13
Broadwater	12	.....	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	296	24.7	7	3	.....	.....	.26
Carbon	54	.....	54	.....	.....	.....	.....	.....	.....	1	.....	1	*55	1,711	31.1	27	22	3	3	1.18
Cascade	114	6	120	3	.....	3	.....	.....	.....	.....	.....	.....	123	4,549	37.0	87	25	.....	11	2.64
Chouteau	75	2	77	5	1	6	7	.....	7	.....	.....	.....	*90	5,661	63.0	55	30	1	4	1.93
Custer	48	2	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	1,791	35.1	26	19	2	3	1.07
Dawson	38	.....	38	.....	1	1	.....	.....	.....	.....	.....	.....	39	853	21.9	12	16	6	5	.84
Deer Lodge	332	10	342	8	6	14	3	.....	3	.....	.....	.....	359	5,998	16.7	319	20	2	18	7.70
Fergus	80	3	83	5	1	6	9	.....	9	.....	.....	.....	98	2,114	21 6	67	16	.....	15	2.10
Flathead	101	6	107	.....	.....	.....	2	.....	2	1	.....	1	119	2,208	20.0	93	2	5	10	2.36
Gallatin	150	2	152	.....	.....	.....	.....	.....	.....	1	.....	1	153	2,397	15.7	107	29	8	9	3.28
Granite	9	2	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	406	36.9	5	4	.....	2	.24
Jefferson	70	.....	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	70	1,667	2.38	23	32	6	9	1.50
Lewis and Clark	311	39	350	25	8	33	12	.....	12	20	.....	20	*415	15 050	36.3	344	36	5	30	8.90
Madison	10	1	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	*11	300	27.3	6	3	.....	2	.24
Meagher	32	2	34	5	.....	5	1	.....	1	.....	.....	.....	40	1,680	42.0	20	9	3	8	.86
Missoula	601	15	616	6	.....	6	22	2	24	7	.....	7	*653	6,733	10.3	574	59	6	14	14.01
Park	606	11	617	2	4	6	.....	.....	.....	.....	.....	.....	*623	5,831	9.3	519	90	9	5	13.37
Powell	98	.....	98	.....	.....	.....	.....	.....	.....	.....	.....	.....	*98	1,428	14.6	90	5	.....	3	2.10
Ravalli	32	1	33	1	.....	1	.....	.....	.....	.....	.....	.....	*34	573	17.0	16	12	.....	6	.73
Rosebud	14	1	15	1	.....	1	.....	.....	.....	.....	.....	.....	16	469	29.3	12	4	.....	.....	.34
Sanders	23	2	25	1	.....	1	4	.....	4	.....	.....	.....	*30	450	15.0	14	12	2	2	.64
Silver Bow	1,142	76	1,218	11	13	24	.....	.....	.....	3	.....	3	*1,245	25.754	20.7	940	207	24	74	26.71
Sweet Grass	37	1	38	.....	.....	.....	.....	.....	.....	.....	.....	.....	38	779	25.0	15	14	1	8	.82
Teton	13	1	14	.....	.....	.....	4	.....	4	.....	.....	.....	*18	650	36.1	17	.....	.....	1	.39
Valley	53	.....	53	.....	.....	.....	2	.....	2	.....	.....	.....	*55	2,383	43.3	34	14	1	6	1.18
Yellowstone	145	3	148	11	2	13	1	.....	1	.....	.....	.....	162	8,959	55.3	94	53	2	13	3.48
Total	4,253	186	4,439	84	36	120	67	2	69	33	.....	33	4,661	102,444	22.0	3,560	749	86	266	100.00

* All or part of city prisoners are confined in county jail.

JAIL INCARCERATIONS—1907.

Statement of Persons Incarcerated in County Jails During 1907, as Reported by Sheriffs.

COUNTIES.	White.			Colored.			Indians (Including Half Breeds.)			Chinese and Japanese.			Total confined during year.	Days Confined.		Offenses Charged.		Witnesses held.	Insane temporarily in charge of sheriff.	Percentage of incarcerations for each county to total incarcerations in the state, 1907.
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.		Total number of days all were confined.	Average number of days each was confined.	Misdemeanors.	Felonies.			
Beaverhead	37	.....	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	37	914	24.7	24	10	.....	3	.57
Broadwater	12	.....	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	284	23.7	2	9	.....	1	.19
Carbon	50	.....	50	.....	.....	.....	.....	.....	.....	1	.....	1	*51	1,499	29.4	24	25	1	1	.79
Cascade	128	6	134	5	1	6	1	1	2	1	.....	1	142	5,046	35.3	100	33	1	9	2.21
Chouteau	78	2	80	2	.....	2	2	.....	2	.....	.....	.....	*84	3,228	38.4	54	21	.....	9	1.30
Custer	91	.....	91	1	.....	1	.....	.....	.....	.....	.....	.....	92	1,789	19.4	47	39	.....	6	1.42
Dawson	58	.....	58	.....	1	1	.....	.....	.....	.....	.....	.....	59	1,146	19.4	22	32	.....	5	.91
Deer Lodge	199	3	202	5	.....	5	2	.....	2	.....	.....	.....	209	5,153	24.7	148	31	7	23	3.23
Fergus	115	7	122	28	9	37	6	.....	6	.....	.....	.....	165	2,797	17.0	87	48	17	13	2.55
Flathead	131	6	137	1	.....	1	7	.....	7	8	1	9	154	3,144	20.4	95	42	2	15	2.38
Gallatin	199	6	205	2	.....	2	.....	.....	.....	1	.....	1	208	3,744	18.0	135	55	5	13	3.22
Granite	18	1	19	1	.....	1	.....	.....	.....	1	.....	1	21	378	18.0	13	2	.....	6	.32
Jefferson	83	2	85	.....	.....	.....	.....	.....	.....	.....	.....	.....	85	1,612	19.0	70	11	1	3	1.31
Lewis and Clark	413	24	437	21	12	33	.....	.....	.....	19	2	21	*491	8,400	17.1	406	38	8	39	7.59
Madison	16	2	18	.....	.....	.....	1	.....	1	.....	.....	.....	*19	214	11.3	9	6	.....	4	.29
Meagher	44	.....	44	11	3	14	1	.....	1	1	.....	1	60	3,725	62.1	42	7	5	6	.93
Missoula	1,686	21	1,707	18	6	24	38	11	49	27	.....	27	*1,807	11,424	6.3	1,695	56	10	46	27.96
Park	593	11	604	7	10	17	1	.....	1	3	.....	3	*625	4,636	7.4	571	34	6	14	9.66
Powell	273	.....	273	1	.....	1	3	.....	3	5	.....	5	* 282	3,858	13.7	259	17	6	.....	4.36
Ravalli	31	3	34	1	.....	1	.....	.....	.....	.....	.....	.....	35	432	12.3	17	8	2	8	.54
Rosebud	25	1	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	26	596	22.9	21	3	.....	2	.40
Sanders	77	1	78	2	.....	2	1	.....	1	.....	.....	.....	*81	1,536	19.0	62	15	2	2	1.25
Silver Bow	1,185	73	1,258	22	8	30	.....	.....	.....	8	3	11	*1,299	20,221	15.6	892	251	96	60	20.09
Sweet Grass	21	1	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	22	528	24.0	14	7	.....	1	.34
Teton	37	.....	37	.....	.....	.....	10	1	11	.....	.....	.....	*48	1,083	22.6	33	12	.....	3	.74
Valley	78	.....	78	3	.....	3	6	.....	6	.....	.....	.....	*87	2,861	32.9	60	17	.....	10	1.35
Yellowstone	228	8	236	13	1	14	3	.....	3	12	.....	12	265	5,324	20.1	167	69	5	24	4.10
Total	5,906	178	6,084	144	51	195	82	13	95	87	6	93	6,467	65,572	10.1	5,069	898	174	326	100.00

* All or part of city prisoners are confined in county jail.

OFFICIAL DIRECTORY

United States Officials in Montana.

Office.	Name.	Residence.
Judges of the United States	Mr. Justice McKenna	Washington, D. C.
Circuit Court for the Ninth	Wm. B. Gilbert	Portland, Ore.
Judicial District	Erskine M. Ross	Los Angeles, Calif.
	Wm. M. Morrow	San Francisco, Calif.
Judge of U. S. District Court	William H. Hunt	Helena.
U. S. District Attorney	James W. Freeman	Helena.
Assistant U. S. District Attorney	S. C. Ford	Helena.
Clerk to U. S. Attorney	C. O. Tegnall	Helena.
Clerk of U. S. District Court	George W. Sproule	Helena.
Deputy Clerk U. S. District Court	Charles R. Garlow	Helena.
Deputy Clerk U. S. District Court	F. H. Drake	Butte.
United States Marshal	A. W. Merrifield	Helena.
Surveyor General	John F. Cone	Helena.
Collector U. S. Customs	C. M. Webster	Great Falls.
Register Helena Land Office	F. D. Miracle	Helena.
Receiver Helena Land Office	George O. Freeman	Helena.
Register Bozeman Land Office	M. R. Wilson	Bozeman.
Receiver Bozeman Land Office	Walter H. Sales	Bozeman.
Register Miles City Land Office	Albert Kircher	Miles City.
Receiver Miles City Land Office	J. C. Auld	Miles City.
Register Missoula Land Office	Daniel Arms	Missoula.
Receiver Missoula Land Office	W. H. Houston	Missoula.
Register Lewistown Land Office	C. E. McKoin	Lewistown.
Receiver Lewistown Land Office	Willis A. Hedges	Lewistown.
Register Kalispell Land Office	Andrew Swaney	Kalispell.
Receiver Kalispell Land Office	J. R. Hillman	Kalispell.
Register Great Falls Land Office	James M. Burlingame	Great Falls.
Receiver Great Falls Land Office	Charles A. Wilson	Great Falls.
Register Billings Land Office	C. L. Harris	Billings.
Receiver Billings Land Office	W. M. Enright	Billings.

Time and place of holding courts—First Mondays in April and November at Helena. First Tuesdays in February and September at Butte. First Mondays in May and October at Great Falls.

FOREIGN CONSULS FOR MONTANA.

Country.	Name.	Address.
Austria-Hungary	Alexander Nuber von Pereked	Chicago, Ill.
Belgium	F. Wodon	San Francisco, Calif.
France	Louis Emile Houssin de St. Laurent	Chicago, Ill.
Germany	Alfred Geissler	Seattle, Wash.
Great Britain	James Laidlaw	Portland, Ore.
Greece	Geo. Scholometti	Butte, Mont.
Italy	Bernardo Dolzadelli	Butte, Mont.
Mexico	Dr. Plutarco Ornelas	San Francisco, Calif.
Netherlands	G. Birkoff, Jr.	Chicago, Ill.
Norway	Engebreth Hagbarth Hobe	St. Paul, Minn.
Portugal	Luis de Sousa Monteiro Ferreira de Castro	New York City, N. Y.
Spain	Jose Maria Lame de Espanosa	San Francisco, Calif.
Sweden	C. A. Smith	Minneapolis, Minn.
Switzerland	Arnold Schwyzer	St. Paul, Minn.

UNITED STATES IMMIGRATION SERVICE.

Name.	Office.	Residence.
Alfred Hampton	Inspector in Charge	Helena.
Howard D. Eby	Chinese and Immigrant Inspector	Helena.
Henry Ching Hing	Chinese Interpreter	Helena.
Pliny Patrick	Clerk and Acting Inspector	Helena.
Samuel C. Walker	Chinese and Immigrant Inspector	Havre.
Chas. K. Andrews	Chinese and Immigrant Inspector	Bonner's Ferry.

UNITED STATES FORESTRY SERVICE.

District No. 1.

Headquarters, Missoula.

W. B. Greeley	District Forester.
F. A. Silcox	Assistant District Forester.
R. H. Rutledge	Chief, Office of Operation.
R. Y. Stuart	Assistant Chief.
E. B. Quiggle	Chief, Section of Occupancy.
R. L. Campbell	Chief, Section of Maintenance.
C. H. Adams	Chief, Office of Grazing.
W. S. Perrine	Assistant Chief.
W. R. Wheaton	Chief, Office of Products.
F. I. Rockwell	Assistant Chief.
A. W. Cooper	Chief, Office of Silviculture.
D. T. Mason	Assistant Chief.
E. I. Terry	Chief, Section of Silvics.
W. T. Stone	Assistant Chief.
E. C. Clifford	Chief, Section of Planting.

See page 53 for list of Supervisors and their postoffice addresses.

UNITED STATES RECLAMATION SERVICE.

H. N. Savage	Supervising Engineer	Helena, Mont.
W. J. Eggleston	Legal Examiner	Helena, Mont.
R. O. Hayt	Assistant Engineer	Helena, Mont.
J. A. Beemer	Junior Engineer	Helena, Mont.
Leroy N. Reeve	Junior Engineer	Helena, Mont.
R. E. Seitz	Junior Engineer	Helena, Mont.
M. C. Knapp	Junior Engineer	Helena, Mont.
C. E. Frisbee	Special Agent	Helena, Mont.
Miss Dell Russell	Chief Clerk	Helena, Mont.
H. N. Bickel	Clerk	Helena, Mont.

BLACKFEET PROJECT:—

G. E. Goodwin	Project Engineer	Family, Mont.
E. C. Gersbach	Assistant Engineer	Family, Mont.
L. R. Balch	Assistant Engineer	Family, Mont.
F. A. Gorham	Assistant Engineer	Family, Mont.
C. W. Donnally	Chief Clerk	Family, Mont.

HUNTLEY PROJECT:—

C. P. Williams	Engineer in Charge	Huntley, Mont.
Dudley F. Black	Assistant Engineer	Huntley, Mont.
Wm. S. Arthur	Chief Clerk	Huntley, Mont.
Edward B. LeClaire	Junior Clerk	Huntley, Mont.

YELLOWSTONE PROJECT:—

Robt. S. Stockton	Engineer, Irrigation Manager	Glendive, Mont.
M. S. Brennan	Assistant Engineer	Glendive, Mont.
L. H. Mitchell	Assistant Engineer	Glendive, Mont.
F. A. Banks	Assistant Engineer	Glendive, Mont.
F. J. Israel	Chief Clerk	Glendive, Mont.
W. W. Hockaday	Clerk	Glendive, Mont.
W. C. Burk	Junior Clerk	Glendive, Mont.

FT. PECK PROJECT:—

A. J. Hayes	Assistant Engineer	Helena, Mont.
C. J. Moody	Assistant Engineer	Helena, Mont.
S. A. Kerr	Junior Engineer	Helena, Mont.

FLATHEAD PROJECT:—

E. F. Tabor	Project Engineer	St. Ignatius, Mont.
C. E. Hewitt	Assistant Engineer	St. Ignatius, Mont.
A. J. Fisk	Assistant Engineer	St. Ignatius, Mont.
W. N. Hill	Assistant Engineer	St. Ignatius, Mont.
R. M. Connor	Assistant Engineer	St. Ignatius, Mont.
H. O. Beale	Junior Engineer	St. Ignatius, Mont.
A. J. Anderson	Junior Engineer	St. Ignatius, Mont.
Claude Glenn	Chief Clerk	St. Ignatius, Mont.
H. T. Caldwell	Clerk	St. Ignatius, Mont.
Wm. M. Haley	Junior Clerk	St. Ignatius, Mont.

MILK RIVER PROJECT:—

C. C. Babb	Project Engineer	Malta, Mont.
Joseph Wright	Engineer	Malta, Mont.
R. H. Fifield	Assistant Engineer	Malta, Mont.
I. B. Hosig	Assistant Engineer	Malta, Mont.
M. E. Ready	Junior Engineer	Malta, Mont.
E. L. Hendrix	Chief Clerk	Malta, Mont.
Esco Hamilton	Clerk	Malta, Mont.
W. T. Parker	Junior Clerk	Malta, Mont.

SUN RIVER PROJECT:—

S. B. Robbins	Project Engineer	Fort Shaw, Mont.
Foster Towle	Assistant Engineer	Fort Shaw, Mont.
John E. Moran	Chief Clerk	Fort Shaw, Mont.
I. H. Curl	Junior Clerk	Fort Shaw, Mont.

COMMISSIONERS OF DEEDS FOR MONTANA.

State.	Name.	Address.
District of Columbia	Chas. S. Bundy	Corner Four and a Half and D Sts., Washington, D. C.
Massachusetts	Edward J. Jones	61 Court St., Boston, Mass.
New York	George H. Corey	56 Wall St. New York City.
	Joseph B. Braman	120 Broadway, New York City.
Pennsylvania	Mac Wilkie	703 Land Title Building, Philadelphia Pa.
	Francis E. Fairman	822 Frick Building, Philadelphia, Pa.
	John S. Qurtz	1037 Real Estate Trust Building, Philadelphia, Pa.
Great Britain	Thomas Cato Warsfold	9 Staple Inn, London, England.
	J. Bruce Hendry	7 New Square, Lincoln Inn, London, England.

UNITED STATES COMMISSIONERS.

Name.	Address.	Appointed.
Anker, Sigard	Plentywood	April 20, 1907.
Allen, Geo. R.	Twin Bridges	October 25, 1905.
Ainsworth, A. S.	Thompson	January 30, 1907.
Armstrong, E. O.	Hardscrabble	January 11, 1907.
Anderson, Adam	Decker	January 14, 1907.
Arnoux, J. M.	Browning	January 30, 1906.
Axtell, Dudley	Stanford	January 22, 1909.
Bush, J. E.	Zortman	February 13, 1906.
Beatty, J. A.	Ashland	February 13, 1908.
Brubaker, W. A.	Terry	September 24, 1907.
Bean, Hugh E.	Drummond	April 24, 1908.
Buck, Chas. H.	Stevensville	June 1, 1905.
Bergh, Olaf	Redstone	October 1, 1906.
Burleigh, H. J.	Plains	November 1, 1908.
Butts, W. L.	Leedy	April 7, 1906.
Belcher, J. F.	Lavina	December 13, 1907.
Beebe, Wm. A.	Heron	May 1, 1905.
Bradley, Clance C.	Harrisburg	April 1, 1905.
Boyle, Cas. H.	Fort Benton	Dec. 18, 1906.
Beaver, C. E.	Custer	October 15, 1907.
Blackstone, D. L.	Chinook	January 27, 1909.
Bailey, F. C.	Big Fork	October 10, 1908.
Bemis, R. H.	Belt	March 4, 1908.
Blake, R. W.	Grass Range	June 13, 1908.
Benedict, Chas. F.	Fort Shaw	November 2, 1908.
Cock, E. S.	Roundup	March 5, 1908.
Cranson, C. S.	Elliston	March 21, 1907.
Catlin, Thos. W.	Deer Lodge	August 28, 1905.
Coulter, Geo. H.	Culbertson	July 1, 1905.
Cowan, W. G.	Box Elder	December 14, 1905.
Covington, C. C.	Augusta	May 14, 1906.
Chapman, A. R.	Plentywood	October 17, 1908.
Collins, Jno.	Harlem	February 1, 1909.
Dailey, Jno.	Medicine Lake	September 27, 1907.
Davis, W. George	Sweet Grass	November 29, 1905.
Daniels, M. A.	Poplar	April 1, 1905.
Davis, Arthur	Livingston	April 10, 1905.
Dunlap, Jno.	Hill	September 27, 1904.
Dempsey, P. H.	Dayton	April 21, 1905.
Darling, M. S.	Conrad	June 11, 1907.
Dady, J. W.	Lame Deer	July 11, 1908.
Davidson, Clarence N.	Butte	November 13, 1908.
Fjeld, Olaf C.	Shelby	June 11, 1907.
Farris, J. T.	Hinsdale	October 23,1908.
Federhen, Frank H.	Dupuyer	January 4, 1909.
Frase, C. F.	Broadview	November 19, 1908.
Grande, A. C.	White Sulphur Springs	February 5, 1906.
Glasscock, W. R.	Ovando	September 17, 1906.
Gallinger, E.	Leedy	September 14, 1904.
Goodwin, J. F.	Custer	March 24, 1908.

Name.	Address.	Appointed.
Gray, F. L.	Fallon	October 4, 1907.
Garrett, E. C.	Choteau	January 16, 1905.
Hough, H. J.	Broadview	March 27, 1908.
Handel F. W.	Musselshell	January 24, 1906.
Henderson, W. C.	Jordan	March 23, 1908.
Hill, H. B.	Mondak	July 24, 1905.
Hyde, W. L.	Bridger	May 5, 1906.
Jordan, E. E.	Wibaux	March 26, 1906.
James, J. W.	Anaconda	April 25, 1908.
Johnston, J. W.	Fort Custer	June 11, 1907.
Jewett, H. C.	Fishtail	July 1, 1905.
Johnson, A. S.	Dillon	March 9, 1905.
Jacobson, Martin	Cut Bank	March 30, 1907.
Kelsey, F. T.	Moorhead	December 23, 1906.
Kreidler, F. M.	Miles City	July 1, 1905.
Lyle, F. W.	Red Lodge	December 4, 1905.
Mushbach, J. E.	Red Lodge	November 26, 1904.
Myers, F. C.	Pony	June 11, 1907.
Moore, W. E.	Philipsburg	November 8, 1905.
Morris, F. J.	Hamilton	July 1, 1905.
Muri, D. J.	Forsyth	November 18, 1905.
Miller, Fred E.	Crow Agency	March 27, 1906.
Matthews, Walter	Choteau	April 8, 1905.
Molum Bernt M.	Capitol	April 20, 1907.
Mann, F. L.	Billings	April 20, 1907.
McDowell, Jno.	Gold Butte	May 7, 1907.
Morse, C. H.	Baker	December 7, 1908.
Main, H. W.	Babb	January 2, 1909.
Madsen, E. F.	Dagmer	December 18, 1908.
Newhall, E. B.	Big Sandy	October 13, 1906.
Nash, F. H.	Kalispell	October 6, 1908.
O'Donnell, D.	Trout Creek	April 15, 1905.
Price, Maurice C.	Whitlash	March 2, 1908.
Posten, J. D.	Libby	July 1, 1905.
Pratt, Paul D.	Libby	June 11, 1907.
Parker, Verne	Kismet	July 1, 1905.
Pyper, W. B.	Havre	February 23, 1908.
Parker, H. C.	Hamilton	April 20, 1907.
Peck, W. H.	Garneil	October 30, 1906.
Pomeroy, H. G.	Eureka	December 21, 1906.
Pound, H. C.	Big Timber	October 30, 1906.
Reichel, Robt. M.	Malta	July 6, 1908.
Reed, Guy L.	Ridgelawn	February 23, 1908.
Randall, J. B.	Wolf Point	February 23, 1908.
Rhone A. R.	Plains	April 1, 1904.
Rhoades, W. E.	Glasgow	November 21, 1907.
Stevenson, B. R.	Wisdom	February 21, 1906.
Scheetz, Geo.	Terry	April 6, 1907.
Smith, Wallace P.	Missoula	July 1, 1905.
Sparrow, F. B.	Lakeview	October 23, 1907.
Sullivan, M. J.	Kalispell	November 14, 1904.
Sterling, F. P.	Helena	September 21, 1904.
Straight, W. O.	Harlowtown	January 18, 1907.
Sample, H. A.	Glendive	November 11, 1905.
Shanley, Walter	Glasgow	March 23, 1906.
Sullivan, Jeremiah	Fort Benton	July 1, 1905.
Smith, W. G.	Darby	March 7, 1906.
Simpson, Geo. H.	Columbus	September 27, 1908.
Scott, F. H.	Clear Creek	July 1, 1905.
Sands, W. B.	Chinook	July 1, 1905.
Spangler, Maurice.	Chester	September 17, 1906.
Skillman, C. N.	Big Timber	July 1, 1905.
Small, S. J.	Judith Gap.	October 17, 1908.
Shields, Jno. W.	Conrad	November 28, 1908.
Taylor, C. E.	Saco	February 8, 1906.
Thompson, H. R.	Helena	November 18, 1905.
Tracy, M. O.	Ekalaka	June 28, 1907.
Vagg. H. A.	Saco	November 29, 1905.
Vennum, G. W.	Harlem	January 30, 1905.
Whitney, Lucius	Joliet	June 26, 1906.
Willis, Jno.	Glasgow	May 28, 1907.
Warner, A. C.	Choteau	July 1, 1905.

REFEREES IN BANKRUPTCY.

(Appointed for Two Years.)

Number of District and Name of Referee.	Residence.	Counties in District.	Appointed.
1—F. W. Haskins	Butte	Beaverhead Deer Lodge Powell Madison Silver Bow	Nov. 5, 1907.
2—S. A. Balliet	Helena	Broadwater Jefferson Lewis and Clark Meagher	July 25, 1907.
3—Henry A. Frith	Billings	Carbon Custer Dawson Yellowstone Rosebud	July 25, 1907.
4—J. E. Rockwood	Kalispell	Flathead	Feb. 11, 1908.
5—Edmund M. Niles	Livingston	Gallatin Park Sweet Grass	Feb. 28, 1908.

CONGRESSIONAL DELEGATION.

Office.	Name and Residence.	Term Expires.
United States Senator	Thomas H. Carter, Helena	March 4, 1911.
United States Senator	Joseph M. Dixon, Missoula	March 4, 1913.
Representative	Charles N. Pray, Fort Benton	March 4, 1911.

REPRESENTATIVE DISTRICTS AND APPORTIONMENT.

Beaverhead	2	Missoula	4
Broadwater	2	Park	2
Carbon	1	Powell	1
Cascade	5	Ravalli	1
Chouteau	2	Rosebud	1
Custer	2	Sanders	1
Dawson	1	Silver Bow	12
Deer Lodge	6	Sweet Grass	1
Fergus	2	Teton	1
Flathead	3	Valley	1
Gallatin	3	Yellowstone	1
Granite	2		
Jefferson	3	Total	74
Lewis and Clark	7		
*Lincoln	1	One Senator from each county	28
Madison	3		
Meagher	2	Total	102

* Created by Act approved March 9, 1909. Effective July 1, 1909.

MEMBERS OF THE SENATE OF THE ELEVENTH LEGISLATIVE ASSEMBLY.

(Regular Session Convenes at 12 O'Clock, Noon, on the First Monday in January, Each Odd Numbered Year. Limit of Session, 60 Days. Term of Office, Four Years.)

County.	Name.	Politics.	Address.	Elected.
Beaverhead	E. O. Selway	Republican	Dillon	Nov. 3, 1908.
Broadwater	*Chas. S. Muffley	Democrat	Winston	Nov. 5, 1906.
Carbon	W. F. Meyer	Republican	Red Lodge	Nov. 3, 1908.
Cascade	*James Sanders	Republican	Great Falls	Nov. 5, 1906.
Chouteau	*T. M. Everett	Republican	Harlem	Nov. 5, 1906.
Custer	Harrison N. Sykes	Republican	Ekalaka	Nov. 3, 1908.
Dawson	George McCone	Republican	Glendive	Nov. 3, 1908.
Deer Lodge	†Patrick J. Daly	Democrat	Anaconda	Nov. 3, 1908.
Fergus	*H. M. Rae	Republican	Gilt Edge	Nov. 5, 1906.
Flathead	*Thos. D. Long	Democrat	Kalispell	Nov. 5, 1906.
Gallatin	J. C. McCarthy	Democrat	Bozeman	Nov. 3, 1908.
Granite	*Geo. Metcalf	Republican	Philipsburg	Nov. 5, 1906.
Jefferson	*Edward Cardwell	Democrat	Jefferson Island	Nov. 5, 1906.
Lewis and Clark	Chas. N. Kessler	Republican	Helena	Nov. 3, 1908.
Madison	*Jacob Albright	Republican	Virginia City	Nov. 5, 1906.
Meagher	Clarence P. Tooley	Republican	Two Dot	Nov. 3, 1908.
Missoula	*Edward Donlan	Republican	Missoula	Nov. 5, 1906.
Park	John M. Conrow	Democrat	Livingston	Nov. 3, 1908.
Powell	W. M. Cockrell	Democrat	Deer Lodge	Nov. 3, 1908.
Ravalli	*Miles Romney	Democrat	Hamilton	Nov. 5, 1906.
Rosebud	*J. E. Edwards	Republican	Forsyth	Nov. 5, 1906.
Sanders	*C. E. Fairbanks	Republican	Plains	Nov. 5, 1906.
Silver Bow	*W. H. Haviland	Democrat	Butte	Nov. 5, 1906.
Sweet Grass	Charles McDonnell	Republican	Melville	Nov. 3, 1908.
Teton	*William Cowgill	Republican	Choteau	Nov. 5, 1906.
Valley	*J. C. Truscott	Democrat	Glasgow	Nov. 5, 1906.
Yellowstone	*J. B. Annin	Republican	Columbus	Nov. 5, 1906.

† Died March 8, 1909.
* Holdovers.

MEMBERS OF THE HOUSE OF REPRESENTATIVES OF THE ELEVENTH LEGISLATIVE ASSEMBLY.

(Elected Nov. 3, 1908. Term of Office Two Years.)

County.	Name.	Politics.	Address.
Beaverhead	Frank Eliel	Republican	Dillon.
	J. T. Murray	Republican	Wisdom.
Broadwater	Samuel J. Crouch	Democrat	Three Forks.
	William C. Whaley	Democrat	Bedford.
Carbon	George W. Pierson	Democrat	Red Lodge.
*Cascade	William Cluston	Democrat	Great Falls.
	John Hayes	Democrat	Great Falls.
	William E. Ward	Democrat	Great Falls.
	A. H. Gray	Republican	Great Falls.
Chouteau	Leonard J. Chrisler	Democrat	Havre.
	T. A. Cummings	Republican	Fort Benton.
Custer	S. W. Kelsey	Republican	Brandenburg.
	James Hunter	Republican	Miles City.
Dawson	D. C. Maxwell	Republican	Glendive.
Deer Lodge	W. J. Allen	Democrat	Anaconda.
	Ed. Burke	Democrat	Anaconda.
	Harold G. Mitchell	Democrat	Warm Springs.
	Joseph S. Ray	Democrat	Anaconda.
	C. L. Swick	Republican	Anaconda.
	Harrie W. White	Republican	Gold Coin.
Fergus	Dr. C. W. Smith	Republican	Kendall.
	Rufus B. Thompson	Republican	Lewistown.
Flathead	James Harbert	Republican	Kalispell.
	E. M. Hutchinson	Republican	Whitefish.
	H. C. Pomeroy	Republican	Kalispell.
Gallatin	C. E. McCoy	Democrat	Belgrade.
	E. J. Owenhouse	Democrat	Bozeman.
	George R. Safley	Republican	Bozeman.

County.	Name.	Politics.	Address.
Granite	Hugh T. Cummings	Republican	Drummond.
	T. J. Hanifen	Democrat	Drummond.
Jefferson	P. F. Dowling	Democrat	Basin.
	Fred. R. Warren	Democrat	Whitehall.
	V. E. Wilham	Democrat	Clancy.
Lewis and Clark	Owen Byrnes	Democrat	Marysville.
	H. L. Clayberg	Democrat	Helena.
	John Edgerton	Republican	Helena.
	Harry Hall	Republican	Helena.
	J. A. Shoemaker	Republican	Helena.
	J. A. Werner	Republican	Helena.
	M. A. Witmer	Republican	Helena.
*Madison	M. M. Duncan	Democrat	Virginia City.
	Frank S. Metzel	Republican	Metzelson.
Meagher	S. A. Shaw	Republican	Harlowtown.
	James T. Wood	Republican	White Sulphur Springs.
Missoula	David D. Bogart	Republican	Missoula.
	Albert Butzerin	Republican	Missoula.
	Charles A. Derry	Republican	Missoula.
	Frank H. Woody	Democrat	Missoula.
Park	Fred L. Gibson	Republican	Livingston.
	Carl Lehrkind	Democrat	Livingston.
Powell	W. T. Elliott	Democrat	Race Track.
Ravalli	Charles M. Crutchfield	Democrat	Hamilton.
	H. Clay Groff	Democrat	Victor.
Rosebud	George W. Brewster	Republican	Birney.
Sanders	J. D. Garber	Democrat	Plains.
Silver Bow	John Berkin	Democrat	Butte.
	H. A. Frank	Democrat	Butte.
	Henry Giovannetti	Democrat	Meaderville.
	James King	Democrat	Butte.
	E. C. Largey	Democrat	Butte.
	Patrick Lowney	Democrat	Butte.
	J. S. Hammond	Democrat	Butte.
	T. S. Kilgallon	Democrat	Butte.
	W. W. McDowell	Democrat	Butte.
	John MacGinniss	Democrat	Butte.
	T. J. Norton	Democrat	Butte.
	Neil O'Donnell	Democrat	Walkerville.
Sweet Grass	A. B. Coit	Republican	Big Timber.
Teton	Martin Jacobson	Republican	Cut Bank.
Valley	Frank C. Arnett	Republican	Culbertson.
Yellowstone	Frank B. Connelly	Republican	Billings.

* One seat vacant by reason of tie vote.

ROSTER OF THE SENATE.

Office.	Name.	County.
President	W. R. Allen	Deer Lodge
President, Pro Tempore	Thos. M. Everett	Chouteau.
Secretary	Nathan Godfrey	Lewis and Clark.
Assistant Secretary	Chas. B. Gibbs	Sanders.
Chaplain	Rev. C. J. McNamee	Lewis and Clark.
Sergeant-at-Arms	Orville Bittle	Rosebud.
Ass't Sergeant-at-Arms	W. G. Jarrett	Gallatin.
Journal Clerk	C. F. Bean	Dawson.
Assistant Journal Clerk	Mrs. Alice Zeetor	Carbon.
Enrolling Clerk	J. R. Franklin	Meagher.
Engrossing Clerk	Miss M. Adams	Beaverhead.
Bill Clerk	Mrs. J. Wescott	Chouteau.
Postmaster	L. C. Scoggins	Sweet Grass
Dookeeper	Byron Carson	Teton.
Dookeeper	C. L. Utley	Madison.
Dookeeper	G. B. Macrae	Cascade.
Watchman	Wm. Jefferson	Yellowstone.
Watchman	Robt. Fraser	Missoula.
Watchman	C. T. Rader	Meagher.
Janitor	H. S. Simpson	Sweet Grass.
Janitor	A. E. Lynes	Cascade.
Page	John Sheehy	Chouteau.
Page	Claude Larson	Missoula.
Page	Brownie Burke	Lewis and Clark.

ROSTER OF THE HOUSE.

Office.	Name.	County.
Speaker	W. W. McDowell	Silver Bow.
Speaker Pro Tempore	Ed Burke	Deer Lodge.
Chief Clerk	C. Z. Pond	Gallatin.
Assitant Chief Clerk	S. C. Ashby, Jr.	Lewis and Clark.
Journal Clerk	Frank Longstaff	Deer Lodge.
Asst. Journal Clerk.	Ella Kelly	Lewis and Clark.
Enrolling Clerk	Mrs. F. L. Shelton	Lewis and Clark.
Engrossing Clerk	Robert Reynolds	Cascade.
Bill Clerk	J. M. Duthie	Silver Bow.
Stenographer to Chief Clerk	Miss Maude Miller	Silver Bow.
Sergeant-at-Arms	C. P. Blakeley	Park.
Asst. Sergeant-at-Arms	F. E. Davis	Gallatin.
Chaplain	H. H. Davis	Lewis and Clark.
Doorkeeper	Con Smith	Jefferson.
Doorkeeper	P. F. Reily	Broadwater.
Doorkeeper	Pat'k Donovan	Missoula.
Watchman	L. D. Hatch	Ravalli.
Watchman	E. D. Kirwan	Cascade.
Watchman	E. L. Tuttle	Jefferson.
Postmaster	L. C. Scoggins	Sweet Grass.
Assistant Postmaster	Angus McDonald	Lewis and Clark.
Page	Joe McEvery	Lewis and Clark.
Page	Joe Bubser	Lewis and Clark.
Page	Wm. Heath	Lewis and Clark.
Page	Fred Bennett	Lewis and Clark.
Page	Jno. Duffy	Silver Bow.

STATE OFFICIALS.

(The postoffice address of all State Officials is Helena.)

Office.	Name.	Residence.
Governor	Edwin L. Norris	Dillon.
Lieutenant Governor	William R. Allen	Anaconda.
Secretary of State	Abraham N. Yoder	Butte.
Treasurer	E. E. Esselstyn	Billings.
Attorney General	Albert J. Galen	Helena.
Auditor	Harry R. Cunningham	Butte.
Superintendent of Public Instruction	Wilfred E. Harmon	Bozeman.
Clerk of Supreme Court	John T. Athey	Great Falls.
Railroad Commissioner	Daniel Boyle	Livingston.
Railroad Commissioner	B. T. Stanton	Bozeman.
Railroad Commissioner	E. A. Morley	Butte.
Secretary of Railroad Commission	R. F. McLaren	Belfry.
Clerk	O. W. Tong	Helena.
Inspector	S. M. Ross	Helena.
Stenographer	Alma L. Mohr	Helena.

Note—Each officer is elected for four years with the following exceptions: Clerk of the Supreme Court is elected for six years, the term of the present Clerk expiring January 1, 1911. The term of Railroad Commissioner Boyle will expire January 1, 1915; B. T. Stanton, January 1, 1913, and E. A. Morley, January 1, 1911.

STATE SUPREME COURT.

Name.	Position.	Elected.	Term Expires.
Theodore Brantly	Chief Justice	Nov. 8, 1904.	Jan. 2, 1911.
Henry C. Smith	Associate Justice	Nov. 5, 1906.	Jan. 4, 1913.
William L. Holloway	Associate Justice	Nov. 3, 1908.	Jan. 4, 1915.

Clerk of Supreme Court, John T. Athey.
Marshall of Supreme Court, M. W. Race.
Stenographer, A. C. Schneider.
Attendant, W. O. Craig.

OFFICERS APPOINTED BY THE GOVERNOR.

Office.	Name.	Appointed.	Term Expires.
Private Secretary to the Governor	Will Aiken	March 4, 1909	Jan. 1, 1913
Stenographer to the Governor	M. W. Caffee	March 4, 1909	Jan. 1, 1913
State Land Agent	Henry Neill	Aug. 16, 1905	Aug. 16, 1909
Register State Land Office	F. H. Ray	March 20, 1909	March 20, 1913
Commissioner of the Bureau of Agriculture, Labor, Industry and Publicity	Jno. H. Hall	March 4, 1909	March 4, 1913
State Examiner	H. H. Pigott	March 4, 1909	March 4, 1913
Veterinary Surgeon	M. E. Knowles	March 19, 1907	March 8, 1911
Inspector of Mines	Wm. Walsh	March 4, 1909	March 4, 1913
Deputy Inspector of Mines	W. B. Orem	March 4, 1909	March 4, 1913
Coal Mine Inspector	J. B. McDermott	Nov. 28, 1905	Nov. 28, 1909
Boiler Inspector	J. H. Dailey	March 4, 1909	March 4, 1913
Assistant Boiler Inspector	Stephen Parker	March 4, 1909	March 4, 1913
Assistant Boiler Inspector	W. W. Mapes	March 4, 1909	March 4, 1913
Game and Fish Warden	Henry Avare	.....	March 25, 1913
State Engineer	Jno. W. Wade	March 7, 1907	March 7, 1911
Secretary Bureau of Child and Animal Protection	J. M. Kennedy	March 4, 1909	March 4, 1913
Deputy in Charge of Missoula District	Waller Shobe	March 4, 1909	March 4, 1913
Deputy in Charge of Butte District	P. J. Gilligan	March 4, 1909	March 4, 1913
Deputy in Charge of Havre District	L. K. Devlin	March 14, 1909	March 14, 1913
Deputy in Charge of Billings District	H. D. Bodine	March 14, 1909	March 14, 1913
Custodian Fort Ellis Military Reservation	A. C. Harding	.....	.....
Custodian Fort McGinnis Military Reservation	Otto Anderson	.....	.....

Note:—The postoffice address of Waller Shobe is Helena; P. J. Gilligan, Butte; L. K. Devlin, Havre; H. F. Bodine, Billings.

NATIONAL GUARD OF MONTANA.

EDWIN L. NORRIS, Commander-in-Chief.

GENERAL STAFF.

Rank and Name.	Office.	Station.
Brigadier General Phil Greenan	Adjutant General	Anaconda.
Colonel J. J. McGuinness	Inspector General	Helena.
Major S. E. Atkinson	Quartermaster General	Great Falls.
Major Thos. B. Miller	Commissary General	Helena.
Colonel R. C. Monahan	Surgeon General	Butte.
Major Jesse B. Roote	Judge Advocate General	Butte.

STATE BOARD OF EXAMINERS.

Members.	Title.	Organization.
Edwin L. Norris	Governor	President.
Abraham N. Yoder	Secretary of State	Secretary.
Albert J. Galen	Attorney General	Member.

Clerk of the Board: Geo. A. Irwin.

STATE FURNISHING BOARD.

Members.	Title.	Organization.
Edwin L. Norris	Governor	President.
Abraham N. Yoder	Secretary of State	Secretary.
Albert J. Galen	Attorney General	Member.

Clerk of the Board: Geo. A. Irwin.

STATE BOARD OF EQUALIZATION.

Members.	Title.	Organization.
Edwin L. Norris	Governor	President.
Abraham N. Yoder	Secretary of State	Secretary.
Albert J. Galen	Attorney General	Member.
E. E. Esselstyn	Treasurer	Member.
Harry R. Cunningham	Auditor	Member.

Clerk of the Board: J. J. Ryan.

STATE BOARD OF LAND COMMISSIONERS.

Members.	Title.	Organization.
Edwin L. Norris	Governor	President.
Wilfred E. Harmon	Supt. Public Instruction	Secretary.
Abraham N. Yoder	Secretary of State	Member.
Albert J. Galen	Attorney General	Member.

Clerk of the Board: Mrs. Randolph Thompson.

STATE BOARD OF PARDONS.

Members.	Title.	Organization.
Albert J. Galen	Attorney General	President.
Abraham N. Yoder	Secretary of State	Secretary.
Harry R. Cunningham	Auditor	Member.

Clerk of the Board: J. J. Ryan.

STATE BOARD OF PRISON COMMISSIONERS.

Members.	Title.	Organization.
Edwin L. Norris	Governor	President.
Abraham N. Yoder	Secretary of State	Secretary.
Albert J. Galen	Attorney General	Member.

Clerk of the Board: J. J. Ryan.

STATE BOARD OF COMMIS SIONERS FOR THE INSANE.

Members.	Title.	Organization.
Edwin L. Norris	Governor	President.
Abraham N. Yoder	Secretary of State	Secretary.
Albert J. Galen	Attorney General	Member.

Clerk of the Board: J. J. Ryan.

STATE BOARD OF EDUCATION.

Members.	Organization.	Address.	Appointed.	Term Expires.
Edwin L. Norris	President	Helena	Ex-Officio	Jan. 3, 1913
W. E. Harmon	Secretary	Helena	Ex-Officio	Jan. 3, 1913
A. J. Galen	Member	Helena	Ex-Officio	Jan. 3, 1913
G. T. Paul	Member	Dillon	Feb. 10, 1905.	Feb. 10, 1909
J. M. Evans	Member	Missoula	Feb. 26, 1906.	Feb. 7, 1910
C. R. Leonard	Member	Butte	Nov. 8, 1906.	Feb. 1, 1910
E. O. Busenburg	Member	Lewistown	March 18, 1907.	March 2, 1911
O. W. McConnell	Member	Helena	March 18, 1907.	March 2, 1911
O. P. Chisholm	Member	Bozeman	April 1, 1908.	Feb. 12, 1912
S. D. Largent	Member	Great Falls	April 1, 1908.	Feb. 8, 1912
Harry G. Pickett	Member	Helena	May 6, 1908.	Feb. 10, 1909

Secretary of the Board: B. T. Hathaway.

STATE BOARD OF TEXT BOOK COMMISSIONERS.

Name.	Address.	Appointed.	Term Expires.
R. J. Condon	Helena	March 7, 1907	March 7, 1910
L. R. Foote	Dillon	March 7, 1907	March 7, 1910
W. E. Harmon	Bozeman	March 7, 1907	March 7, 1910
S. D. Largent	Great Falls	March 7, 1907	March 7, 1912
Robt. B. Smith	Big Fork	March 7, 1907	March 7, 1912
W. E. Chambers	Butte	March 7, 1907	March 7, 1912
Lewis Terwilliger	Livingston	March 7, 1907	March 7, 1912

CAREY LAND ACT BOARD.

Members.	Title.	Address.
Jno. W. Wade	State Engineer	Helena.
A. N. Yoder	Secretary of State	Helena.
H. H. Pigott	State Examiner	Helena.

STATE LAW LIBRARY.
BOARD OF TRUSTEES.

Members.	Organization.	Address.	Appointed.	Term Expires.
Theo. Brantly	President	Helena	Ex--Officio	Jan. 1, 1911
Henry C. Smith	Member	Helena	Ex--Officio	Jan. 1, 1913
Wm. L. Holloway	Member	Helena	Ex--Officio	Jan. 1, 1915
A. N. Yoder	Secretary	Helena	Ex--Officio	Jan. 1, 1913
Harry R. Cunningham	Member	Helena	Ex--Officio	Jan. 1, 1913

Librarian: A. K. Barbour.

STATE HISTORICAL AND MISCELLANEOUS LIBRARY.
BOARD OF TRUSTEES.

Members.	Organization.	Address.	Appointed.	Term Expires.
Massena Bullard	President	Helena	Feb. 21, 1907	Feb. 21, 1909
Norman B. Holter	Member	Helena	Feb. 21, 1907	Feb. 21, 1909
David Hilger	Member	Lewistown	Feb. 21, 1907	Feb. 21, 1909
J. M. Boardman	Member	Helena	Feb. 21, 1907	Feb. 21, 1909
Thos. H. Spratt	Member	Helena	Feb. 10, 1908	Feb. 21, 1909

Secretary and Librarian: W. S. Bell.

STATE BOARD OF PHARMACY.

Members.	Address.	Appointed.	Term Expires.
Lewis Dreibelbis	Butte	March 30, 1906	March 23, 1909
Sid. J. Coffee	Missoula	March 14, 1907	March 25, 1910
J. L. Kraker	Bozeman	Dec. 17, 1907	Feb. 10, 1911

STATE BOARD OF MEDICAL EXAMINERS.

Members.	Address.	Appointed.	Term Expires.
R. D. Alton	Livingston	Feb. 10, 1905	Feb. 10, 1911
G. D. Bryant	Butte	March 2, 1903	March 2, 1910
W. C. Riddell	Helena	Dec. 20, 1905	Jan. 1, 1913
F. J. Adams	Great Falls	Dec. 23, 1905	Feb. 10, 1912
C. F. Hopkins	Chinook	March 16, 1907	Sept. 26, 1909
S. A. Cooney	Helena	March 16, 1907	Dec. 31, 1913
F. M. Poindexter	Dillon	April 1, 1908	March 27, 1915

STATE BOARD OF OSTEOPATHY.

Members.	Address.	Appointed.	Term Expires.
Chas. W. Mahaffay	Helena	Feb. 10, 1905	Feb. 10, 1909
O. B. Prickett	Billings	May 13, 1903	May 13, 1907
Levi K. Cramb	Butte	March 9, 1908	March 27, 1912

BOARD OF DENTAL EXAMINERS.

Members.	Address.	Appointed.	Term Expires.
W. A. Tudor	Bozeman	Feb. 10, 1905	Feb. 10, 1910
C. H. Head	Helena	Feb. 21, 1905	April 5, 1909
G. A. Chevigny	Butte	Feb. 21, 1908	March 2, 1913
D. J. Wait	Helena	July 5, 1907	June 23, 1913
G. W. Pelzer	Great Falls	July 10, 1906	March 27, 1911

STATE BOARD OF HEALTH.

Members.	Organization.	Address.	Appointed.	Term Expires.
Edwin L. Norris	Member	Helena	Ex-Officio	Jan. 3, 1913
A. J. Galen	Member	Helena	Ex-Officio	Jan. 3, 1913
M. E. Knowles	Member	Helena	Ex-Officio	March 7, 1911
Wm. Treacy	President	Helena	March 7, 1907.	March 7, 1911
L. C. Brunig	Member	Miles City	Feb. 16, 1907.	Jan. 1, 1909
H. H. Hanson	Member	Butte	March 23, 1907.	Jan. 1, 1909

Secretary of the Board: Thos. D. Tuttle.

BOARD OF COMMISSIONERS OF BUILDING AND LOAN ASSOCIATIONS.

Members.	Address.	Appointed.	Term Expires.
D. E. Swinehart	Helena	Feb. 15, 1905	Feb. 15, 1909
Samuel Kennett	Helena	Feb. 15, 1905	Feb. 15, 1909
C. K. Wells	Butte	Feb 15, 1905	Feb. 15, 1909

STATE BOARD OF CHARITIES AND REFORM.

Members.	Address.	Appointed.	Term Expires.
D. D. Price	Helena	Dec. 14, 1908	March 2, 1913
J. F. McNamee	Bozeman	May 13, 1907	Feb. 10, 1911
W. W. Van Orsdal	Great Falls	Feb. 10, 1905	Feb. 10, 1911

STATE INSANE ASYLUM.

Title.	Location.	Operated.	Contractors.
State Insane Asylum	Warm Springs	By Contract	Mitchell & Mussigbrod.

STATE PRISON.

Title.	Location.	Operated.	Warden.
Western State Prison	Deer Lodge	By State	Frank Conley.

STATE BOARD OF HORTICULTURE.

Members.	Address.	Appointed.	Term Expires.
E. L. Norris	Helena	Ex-Officio	.....
C. C. Willis	Plains	March 19, 1907	March 10, 1911
J. G. Clark	Fromberg	March 10, 1907	March 10, 1911
T. A. McClain	Carlton	March 10, 1907	March 10, 1911
J. C. Wood	Big Fork	May 6, 1908	March 10, 1910
R. N. Sutherlin	Great Falls	March 6, 1906	March 10, 1910
W. J. Teidt	Darby	April 24, 1906	March 10, 1910

Secretary of the Board: J. W. Wallisch, No. 33 Hirbour Block, Butte.

FRUIT INSPECTORS.

District and County.	Name and Residence.
First— Dawson	J. R. Widmyer, Glendive.
Custer	S. L. Maxwell, Miles City.
Rosebud	A. B. Chattin, Forsyth.
Yellowstone	C. I. Gardner, Billings.
Yellowstone	P. D. Kelley, Huntley.
Park	J. E. Swindlehurst, Livingston.
Second—Gallatin	Dr. H. C. Gardiner, Bozeman.
Beaverhead	E. T. Brock, Dillon.
Silver Bow	Jos. W. Wallisch, Room 33, Hirbour Blk., Butte.
Lewis and Clark	Fred Holroyd, Helena.
Third— Valley	H. B. Hill, Mondak.
Valley	H. T. Farris, Hinsdale.
Valley	G. H. Coulter, Culbertson.
Valley	E. E. Crawford, Glasgow.
Chouteau	H. E. Clack, Havre.
Cascade	Allen Pierse, Great Falls.
Fourth—Deer Lodge	L. F. Sperry, Anaconda.
Missoula	H. C. B. Colvill, Missoula.
Missoula	C. H. Mott, Missoula.
Fifth— Ravalli	Wm. J. Tiedt, Darby.
Sixth— Flathead	B. F. Knapp, Kalispell.
Flathead	Nelson Willoughby, Columbia Falls.
Flathead	Geo. E. Davis, Troy.
Flathead	W. T. Cole, Whitefish.
Flathead	Jos. Belfry, Eureka.
Seventh—Sanders	Isaac Sears, Plains.
Sanders	Geo. S. Good, Thompson.

UNIVERSITY OF MONTANA—MISSOULA.

EXECUTIVE COMMITTEE.

Members.	Organization.	Address.
J. H. T. Ryman	President	Missoula.
T. C. Marshall	Secretary	Missoula.
Hiram Knowles	Member	Missoula.

FACULTY.

C. A. Duniway, President.
W. M. Aber, Professor of Latin and Greek.
F. C. Scheuch, Professor of Modern Languages.
M. J. Elrod, Professor of Biology.
Frances Corbin, Professor of Literature.
W. D. Harkins, Professor of Chemistry.
J. P. Rowe, Professor of Physics and Geology.
W. F. Book, Professor of Psychology and Education.
J. S. Snoddy, Professor of English and Rhetoric.
J. H. Underwood, Professor of History and Economics.
L. C. Plant, Professor of Mathematics.
Cynthia E. Reiley, Assistant Professor of Mathematics.
N. R. Craighill, Dean of Engineering School.
Eloise Knowles, Instructor in Art.
Mrs. Blanche Whitaker, Director of School of Music.
J. W. Rhodes, Director of Physical Culture.
Mary Stewart, Dean of Women.
Allston Dana, Assistant in School of Engineering.
M. G. Buckhouse, Librarian.
Walter Arthur,, Assistant in Chemistry.
J. B. Speer, President's Secretary.
Maud McCormick, Assistant in English and Physical Culture.

STATE SCHOOL OF MINES—BUTTE.

BOARD OF TRUSTEES.

Members.	Address.	Term Expires.
A. H. Wethey	Butte	January 1, 1908.
H. C. Hopkins	Butte	.....
N. R. Leonard	Butte	January 1, 1908.
Charles Mattison	Butte	January 1, 1908.
J. D. Slemmons	Butte	January 1, 1908.
C. W. Goodale	Butte	January 1, 1910.

Committee on School of Mines: E. O. Busenburg, C. R. Leonard and G. T. Paul.

FACULTY.

C. H. Bowman, President and Professor of Mechanics.
G. W. Craven, Professor of Mathematics and Designing.
Theodore Simons, Professor of Mining and Mining Engineering.
F. C. Lincoln, Professor of Mineralogy and Geology.
Alex. Gilfillan, Professor of Chemistry and Metallurgy.
A. E. Adami, Instructor in Drawing and Mathematics.
G. W. Kneisly, Instructory in Geology and Mineralogy.
L. J. Hartzell, Assistant Professor of Chemistry.

STATE NORMAL COLLEGE—DILLON.

EXECUTIVE BOARD.

Members.	Address.	Appointed.	Term Expires.
Jno. F. Bishop	Dillon	March 16, 1905	March 20, 1909
J. B. Poindexter	Dillon	March 16, 1905	March 20, 1909
A. L. Stone	Dillon	March 16, 1905	March 20, 1909
Emerson Hill	Red Rock	March 1, 1906	March 20, 1909
B. F. White	Dillon	March 20, 1901	March 20, 1905

FACULTY.

Henry H. Swain, Ph. D., President.
Joseph E. Monroe, B. A., Physics and Chemistry.
Lucy Hamilton Carson, M. A., English.
Charles L. Robbins, M. A., Methods and Training.
Laura M. Kress, B. L., Latin and German.
Robert Clark, M. A., Psychology and Biology.
Theodore Shoudy, Manual Arts.
Grace Graeter, Music.
E. Ray Mosher, M. A., Mathematics.
Addie E. Bettes, Primary Training.
George N. Fuller, M. A., History.
Harriet A. Dunning, Physical Culture.
Florence L. Bishop, Secretary to the President.

MONTANA COLLEGE OF AGRICULTURE AND MECHANIC ARTS, AND THE EXPERIMENT STATION—BOZEMAN.

EXECUTIVE BOARD.

Members.	Organization.	Address.	Appointed.	Term Expires.
E B. Lamme	Member	Bozeman	March 28, 1905.	March 20, 1909
E. Brooks Martin	Member	Bozeman	Feb. 6, 1906.	Feb. 11, 1910
Walter S. Hartman	President	Bozeman	Jan. 14, 1908.	Dec. 18, 1911
J. H. Baker	Member	Bozeman	Jan. 14, 1908.	Dec. 18, 1911
John M. Robinson	Member	Bozeman	Jan. 30, 1904.	Jan. 30, 1908

Secretary-Treasurer of the Board: Geo. Cox, Bozeman.

FACULTY.

James M. Hamilton, M. S., President, Professor of Philosophy and Economics.
Mrs. F. E. Marshall, Professor of Art.
William F. Brewer, A. M., Professor of English and Latin.
Aaron H. Currier, A. M., Professor of French and German.
Miss Lilla A. Harkins, M. S., Professor of Domestic Science.
Robert A. Cooley, B. S., Professor of Zoology and Entomology.
William D. Taliman, B. S., Professor of Mathematics.
Frederick B. Linfield, B. S. A., Professor of Agriculture.
William M. Cobleigh, A. M., Professor of Physics and Chemistry.
Joseph A. Thaler, E. E., Professor of Electrical Engineering.
George B. Couper, M. E., Professor of Mechanical Engineering.
E. Tappan Tannatt, B. S., Professor of Civil Engineering.
William J. Elliott, B. S. A., Professor of Dairying.
Alfred Atkinson, B. S. A., Professor of Agronomy.
Roy W. Fisher, B. S., Professor of Horticulture.
Robert W. Clark, B. S. A., Professor of Animal Industry.
Charles S. Dearborn, B. S., Associate Professor of Mechanical Engineering in Charge of Shops.
Deane B. Swingle, M. S., Assistant Professor of Botany.
Robert D. Kneale, B. S., Assistant Professor Civil Engineering.
M. Herrick Spaulding, B. S., Assistant Professor of Zoology.
Miss Mary A. Cantwell, Principal Preparatory Department and Instructor in English and Mathematics.
F. C. Snow, Assistant Civil Engineer.
W. W. Carlson, Assistant Shops.
J. W. Robinson, Assistant Chemistry.
Miss Helen R. Brewer, A. B., Instructor in History and Latin.
Mrs. Mabel Kinney Hall, Ph. D., Instructor in Public Speaking and Modern Languages.
Miss Florence Ballinger, Instructor in Sewing.
Frank W. Ham, M. S., Instructor in Chemistry and Physics.
Charles E. Mollett, Ph. C., Instructor in Pharmacy and Chemistry.
Mrs. Edna Gage, Assistant in Art.
Miss Frieda Bull, B. S., Assistant in Mathematics.
Miss Lucile Brewer, Assistant in Domestic Science.
Edward D. Kinney, B. C. E., Assistant in Civil Engineering.
Miss Arabelle U. Barnes, Acting Head of Music Department and Instructor in Piano.
Miss Regina Barnes, Instructor in Piano.
Miss Phyllis Pauline Wolfe, Instructor in Vocal Music.
George W. Hey, Mus. Bac., Instructor in Violin.
Mrs. Mary K. Winter, Librarian.
George R. Callaway, Secretary and Accountant.

SUB-EXPERIMENTAL STATION—BILLINGS.
BOARD OF DIRECTORS.

Members.	Address.	Appointed.	Term Expires.
Christian Yegen	Billings	March 7, 1903	March 7, 1907
Oscar Gruwell	Billings	March 7, 1903	March 7, 1907
I. D. O'Donnell	Billings	March 7, 1903	March 7, 1907

STATE REFORM SCHOOL—MILES CITY.
BOARD OF TRUSTEES.

Members.	Address.	Appointed.	Term Expires.
John S. Tuscott	Miles City	Feb. 10, 1905	Feb. 10, 1909
Thos. Gibb	Miles City	April 23, 1908	April 2, 1911
J. R. McKay	Miles City	May 2, 1908	April 1, 1912

MANAGEMENT AND INSTRUCTORS.

H. W. George ..... Director.
A. W. Wetwer ..... Manager Co. A.
C. L. Jack ..... Manager Co. B.
J. M. Moore ..... Farmer.
P. Pedersen ..... Shoemaker.
O. R. Nichols ..... Tailor.
G. L. Stevens ..... Teacher Co. A.
J. R. Jack ..... Teacher Co. B.
F. A. Walker ..... Houseman.
W. Evans ..... Cook.
W. A. Petrie ..... Engineer.
A. E. Seamans ..... Night Watch.
O. H. Price ..... Special Officer.

GIRLS' DEPARTMENT.

Mrs. H. W. George ..... Matron.
Mrs. E. G. Bergle ..... Seamstress.
Miss Eva Moyer ..... Teacher.
Miss Grace Coates ..... Cook.

MONTANA SCHOOL FOR THE DEAF AND BLIND—BOULDER.

BOARD OF TRUSTEES.

Members.	Organization.	Address.	Appointed.	Term Expires.
C. R. Stranahan	President	Boulder	May 10, 1904.	May 10, 1907
Charles Scharf	Secretary	Boulder	March 21, 1902.	March 21, 1905
Edward Ryan	Member	Boulder	Dec. 4, 1904.	March 21, 1906

MANAGEMENT AND INSTRUCTORS.

L. E. Millegan, M. A., Superintendent.

TEACHERS OF THE DEAF.

T. C. Forrester, Head Teacher.
P. H. Brown, B. A.
Sadie Lillard.
Josephine Hayden.
Georgie Hutchinson, Instructor in Art.
E. V. Kemp, Physical Culture.

TEACHERS OF THE BLIND.

J. Adams Morris.
Lucille Menefee, Music.

DOMESTIC DEPARTMENT.

Mrs. F. D. Callahan, Matron.
A. L. Ward, Physician.
Fred J. Low, Boys' Supervisor.
Ethel Cowan, Girls' Supervisor.

INDUSTRIAL DEPARTMENT.

P. H. Brown, Carpentry.
E. N. Kemp, Printing.
Ethel Cowan, Sewing.
T. C. Forrester, Manual Training.
J. A. Morris, Broom Making, Basketry and Carpent Weaving.

SCHOOL FOR BACKWARD CHILDREN.

Caroline W. Wehrend, Matron.
Martha Russell, Teacher.
Mrs. Grace Perry, Teacher.
Charlotte Preuss, Teacher.
T. A. Smith, Boys' Supervisor.
Marion Daly, Girls' Supervisor.
Ethel Franks, Relief Attendant.

STATE ORPHANS' HOME—TWIN BRIDGES.

BOARD OF TRUSTEES.

Members.	Organization.	Address.	Appointed.	Term Expires.
Patrick Carney	President	Waterloo	Feb. 10, 1905.	Feb. 10, 1909
Amos Eastman	Secretary	Twin Bridges	April 26, 1907.	March 27, 1911
A. J. Wilcomb	Treasurer	Twin Bridges	April 26, 1907.	March 27, 1911
W. M. Oliver	Member	Dillon	Feb. 10, 1905.	Feb. 10, 1909
M. Elser	Member	Sheridan	Feb. 10, 1905.	Feb. 10, 1909

MANAGEMENT AND EMPLOYEES.

Wiley Mountjoy ..... Superintendent.
Mrs. Wiley Mountjoy ..... Matron.
Mrs. T. J. Lowman ..... Assistant Matron.
Mrs. L. Emmerson ..... Nurse.
Miss G. Vreidenburg ..... Night Nurse.
Miss Grace Buckner ..... Cottage Matron.
Miss Anna Buckner ..... Cottage Matron.
Miss Gold Jackson ..... Cottage Matron.
Mrs. M. Haviland ..... Teacher.
Miss Frances Russell ..... Teacher.
Miss Alice Wiles ..... Teacher.

SOLDIERS' HOME—COLUMBIA FALLS.
BOARD OF MANAGERS.

Members.	Address.	Appointed.	Term Expires.
F. P. Sterling	Helena	March 6, 1907	April 18, 1911
W. H. Campbell	Kalispell	July 3, 1905	March 16, 1911
Albert Ingraham	Columbia Falls	Feb. 10, 1905	April 1?, 1909
A. J. Fisk	Helena	June 3, 1908	April 18, 1909

Commandant at Home: Capt. H. S. Howell.

STATE BOARD OF PARK COMMISSIONERS.
GREAT FALLS.

Members.	Address.	Appointed.	Term Expires.
R. P. Reckards	Great Falls	July 14, 1908	May 1, 1909
F. W. Webster	Great Falls	July 31, 1908	May 1, 1909
R. J. Fitzgerald	Great Falls	July 20, 1908	May 1, 1910
E. B. Judd	Great Falls	July 31, 1908	May 1, 1910
Thos. H. Larkin	Great Falls	Aug. 10, 1908	May 1, 1910

STATE BOARD OF PARK COMMISSIONERS.
HELENA.

Members.	Address.	Appointed.	Term Expires.
Geo. L. Ramsay	Helena	April 20, 1904	May 1, 1906
J. H. Longmaid	Helena	April 20, 1904	May 1, 1905
Henry Fisher	Helena	April 20, 190?	May 1, 1905
R. C. Wallace	Helena	April 20, 1904	May 1, 1905
E. N. Brandagee	Helena	May 1, 1906	May 1, 1908

STATE BOARD OF STOCK COMMISSIONERS.
(Term Ending February 4, 1911.)

County.	Name.	Address.
Beaverhead	Nels Nelson	Dillon.
Broadwater	Con Sweeny	Winston.
Carbon	Caleb Duncan	Roberts.
Cascade	James T. Stanford	Great Falls.
Chouteau	C. J. McNamara	Big Sandy.
Custer	O. C. Cato	Miles City.
Dawson		Glendive.
Deer Lodge	W. M. Montgomery	Anaconda.
Fergus	Andrew Fergus	Lewistown.
Flathead	J. H. Graves	Kalispell.
Gallatin	H. H. Sappington	Sappington.
Granite	G. W. Morse	Philipsburg.
Jefferson	Daniel McNeill	Boulder.
Lewis and Clark	A. J. Davidson	Helena.
Madison	Winthrop Raymond	Sheridan.
Meagher	George R. Lyons	Two Dot.
Missoula	Dr. W. P. Mills	Missoula.
Park	C. T. Armstrong	Livingston.
Powell	Mike McCormick	Helmville.
Ravalli	D. D. Nicholson	Darby.
Rosebud	Morgan Howell	Forsyth.
Sanders	George Cooper	Plains.
Silver Bow	Roy Ayres	Divide.
Sweet Grass		Big Timber.
Teton	J. L. Dehart	Bynum.
Valley	Daniel C. Kyle	Saco.
Yellowstone	David Pratt	Billings.

STOCK INSPECTORS.

R. H. Rickard ..... South Omaha.
W. H. Rhoads ..... South St. Paul.
Geo. Twiblè ..... Glendive.
Jno. W. Collins ..... Butte.
T. B. McShane ..... Great Falls.
O. A. Dougherty ..... Billings.
W. D. Smith ..... Miles City.

STATE BOARD OF SHEEP COMMISSIONERS.

(Term Ending February 4, 1911.)

County.	Name.	Address.
Beaverhead	Isaac Edinger	Dillon.
Broadwater	J. D. Dogett	Johnson.
Carbon	John Flanagan	Absarokee.
Cascade	James Burns	St. Peter's Mission.
Chouteau	A. H. Lohman	Chinook.
Custer	Frank D. O'Neill	Miles City.
Dawson	William Lindsay	Glendive.
Deer Lodge	John Wenger	Anaconda.
Fergus	Joseph L. Ashbridge	Pine Grove.
Flathead	Louis Fehlberg	Montford.
Gallatin	John F. Work	Bozeman.
Granite	Alex. Whyte	Stone Station.
Jefferson	E. J. Stanley	Whitehall.
Lewis and Clark	A. K. Prescott	Helena.
Madison	W. A. McAfee	Ennis.
Meagher	N. B. Smith	White Sulphur Springs.
Missoula	Gaspard Deschamps	Missoula.
Park	J. H. Daroch	Livingston.
Powell	William Williams	Deer Lodge.
Ravalli	Albert May	Stevensville.
Rosebud	Thomas E. Hammond	Forsyth.
Sanders	.....	Plains.
Silver Bow	Lee Lewis	Butte.
Sweet Grass	Benj. O. Forsythe	Busteed.
Teton	C. M. Coffee	Bynum.
Valley	L. H. Mills	Saco.
Yellowstone	A. C. Logan	Billings.

SHEEP INSPECTORS.

County.	Name.	Address.
Beaverhead	Samuel J. Haines	Dillon.
Broadwater	Jeff Doggett	Johnson.
Carbon	Frank L. Clark	Red Lodge.
Chouteau	D. A. Smith	Hinsdale.
	J. C. McQuaig (Special)	Conrad.
Custer	Dan H. Bowman	Miles City.
	R. Turbiville (Special)	Midland.
Dawson	James Corson	Glendive.
Deer Lodge	Dr. A. H. Cheney	Anaconda.
Fergus	B. C. White	Garneil.
Gallatin	John F. Work	Bozeman.
Granite	Lee C. Degenhart	Philipsburg.
Madison	L. S. Briggs	Bozeman.
Meagher	C. W. Cook	Unity.
Park	Dr. A. D. Knowles	Livingston.
	S. O'N. C. Brady	Meyersburg.
Powell	William Williams	Deer Lodge.
Ravalli	B. S. Shaffin	Corvallis.
Rosebud	Andrew P. Tadsen	Forsyth.
Sweet Grass	Glen M. Parker	Big Timber.
Silver Bow	Dr. A. H. Cheney	Anaconda.
Valley	D. A. Smith	Hinsdale.
Yellowstone	Dr. J. A. Peed.	Billings.

Note—The counties of Cascade and Teton are covered by the inspectors of Chouteau county. The entire eastern section of the State is in charge of regular Inspector D. H. Bowman.

DIRECTORY OF COUNTY OFFICIALS.

BEAVERHEAD.

COUNTY SEAT—DILLON.

Fifth Judicial District. Classification, Sixth.

Office.	Name.	Politics.
District Judge	Lew L. Callaway	Republican.
Sheriff	O. C. Gossman	Republican.
Treasurer	W. F. Cashmore	Republican.
Clerk and Recorder	John S. Baker	Republican.
Assessor	A. H. French	Democrat.
Clerk of District Court	F. A. Hazlebaker	Republican.
Attorney	H R. Melton	Democrat.
Supt. of Public Schools	Alice Kerr	Democrat.
Coroner	L. C. Ford	Republican.
Public Administrator	A. A. Elliott	Republican.
Surveyor	Pearl I. Smith	Republican.
County Commissioners	H. C. Patterson, 6 years	Republican.
	William C. Orr, 4 years	Democrat.
	C. W. Francis, 2 years	Republican.
State Senator	Errest O. Selway	Republican.
Members House Representatives	Frank Eliel	Republican.
	J. T. Murray	Republican.

Justices of the Peace—Josephus Rich, Charles Hirschman, Dillon; George Noble, Peter Hanson, Lima; George Woodworth, W. C. Jones, Wisdom; Charles Ratallack, Bannack; J. C. Wall, Dell; S. B. Howell, Monument; T. B. Craver, Red Rock.

BROADWATER.

COUNTY SEAT—TOWNSEND.

Ninth Judicial District. Classification, Eighth.

Office.	Name.	Politics.
District Judge	W. R. C. Stewart	Democrat.
Sheriff	William T. Deadmond	Democrat.
Treasurer	Peter J. Meloy	Democrat.
Clerk and Recorder	John Doherty	Democrat.
Assessor	M. L. Cavanaugh	Democrat.
Clerk of District Court	Fred Bubser	Democrat.
Attorney	John A. Matthews	Democrat.
Superintendent of Schools	Sallie McMahon	Democrat.
Coroner	Thomas F. O'Connor	Democrat.
Public Administrator	Thomas Lenihan	Democrat.
Surveyor	Elmer Lytle	Democrat.
County Commissioners	John Hines Sr., 6 years	Democrat.
	William P. George, 4 years	Democrat.
	Archie McMillan, 2 years	Democrat.
State Senator	Charles S. Muffley	Democrat.
Members House Representatives	Samuel J. Crouch	Democrat.
	William C. Whaley	Democrat.

Justices of the Peace—G. E. Pool, Townsend; J. W. Perkins, H. L. Keene, Canton; George Carpenter, Toston.

CARBON.

COUNTY SEAT—RED LODGE.

Thirteenth Judicial District. Classification, Seventh.

Office.	Name.	Politics.
District Judge	Sidney Fox	Democrat.
Sheriff	F. S. Bacheldor	Democrat.
Treasurer	W. C. Rae	Democrat.
Clerk and Recorder	G. L. Findley	Democrat.
Assessor	J. R. Clawson	Republican.
Clerk of District Court	H. A. Simmons	Republican.
Attorney	A. C. Spencer	Democrat.
Superintendent of Schools	Ruby E. Simpson	Republican.
Coroner	J. A. Underwood	Democrat.
Public Administrator	Edward Olcott	Republican.
Surveyor	F. W. Hine	Republican.
County Commissioners	R. S. Chappell, 6 years	Republican.
	William Barclay, 4 years	Republican.
	R. O. Morris, 2 years	Republican.
State Senator	W. F. Meyer	Republican.
Member House Representatives.	George W. Pierson	Democrat.

Justices of the Peace—W. H. Close, C. O. Granstrom, Red Lodge; C. F. Oliver, Joliet; O. R. Nixon, Bear Creek; T. J. Cunningham, Absarokee.

CASCADE.

COUNTY SEAT—GREAT FALLS.

Eighth Judicial District. Classification, Second.

Office.	Name.	Politics.
District Judge	Jere B. Leslie	Democrat.
	H. H. Ewing	Democrat.
Sheriff	John A. Collins	Republican.
Treasurer	Fred L. Hill	Republican.
Auditor	Lee Dennis	Republican.
Clerk and Recorder	David M. Wood	Democrat.
Assessor	William H. Harrison	Republican.
Clerk of District Court	George Harper	Democrat.
Attorney	J. W. Speer	Republican.
Superintendent of Schools	Lucy A. Major	Republican.
Coroner	C. E. K. Vidal	Democrat.
Public Administrator	Thomas Ashton	Republican.
Surveyor	Ben C. Johnston	Republican.
County Commissioners	Peter Johnson, 6 years	Democrat.
	Kenneth B. McIvor, 4 years	Democrat.
	Thomas Curry	Republican.
State Senator	James Sanders	Republican.
*Members House of Representatives	William Cluston	Democrat.
	John Hayes	Democrat.
	William E. Ward	Democrat.
	A. H. Gray	Republican.

* One vacant seat resulting from a tie vote.

Justices of the Peace—W. H. Race, W. H. Safford, Great Falls; J. W. Humphreys, Laurence J. Fry, Neihart; John Hetherington, W. J. Murray, Sand Coulee; H. L. Des Combes, John Gray, Belt; George M. Woods, Alf. Briscoe, Cascade.

CHOUTEAU.

COUNTY SEAT—FORT BENTON.

Twelfth Judicial District Classification, Fourth.

Office.	Name.	Politics.
District Judge	John W. Tatton	Democrat.
Sheriff	George Bickle	Republican.
Treasurer	L. O. Hudson	Democrat.
Clerk and Recorder	William R. Leet	Republican.
Assessor	Henry Greisbach	Republican.
Clerk of District Court	Charles H. Boyle	Republican.
Attorney	W. S. Towner	Republican.
Superintendent of Schools	Daisy I. Blackstone	Republican.
Coroner	J. S. Almas	Republican.
Surveyor	A. W. Merrifield	Republican.
Public Administrator	W. O. Dexter	Republican.
County Commissioners	E. M. Kennedy, 6 years	Republican.
	Olaf Skylstead, 4 years	Republican.
	Jere Sullivan, 2 years	Republican.
State Senator	Thomas M. Everett	Republican.
Members House Representatives	L. J. Chrisler	Democrat.
	T A. Cummings	Republican.

Justices of the Peace—J. F. Shoemaker, D. L. Baird, Zortman; E. M. Allen, W. B. Pyper, Havre; J. C. Duff, H. B. Brooks, Chinook; George W. Vennum, Harlem; W. S. McCard, Highwood; George W. Hall, Dodson; Maurice Spangler, Chester; John McDowell, Gold Butte; William Kinder, Fort Benton.

CUSTER.

COUNTY SEAT—MILES CITY.

Seventh Judicial District. Classification, Sixth.

Office.	Name.	Politics.
District Judge	Sidney Sanner	Democrat.
Sheriff	H. R. Wells	Democrat.
Treasurer	Angus H. Swerdfiger	Republican.
Clerk and Recorder	Otis C. Haynes	Republican.
Assessor	George E. Robbins	Republican.
Clerk of District Court	James G. Ramsey	Democrat.
Attorney	Sharpless Walker	Republican.
Superintendent of Schools	Mary Lee Wilson	Republican.
Coroner	Francis S. Gray	Republican.
Public Administrator	John E. de Carle	Republican.
Surveyor	Harry E. Fearnall	Republican.
County Commissioners	R. T. Furnish, 6 years	Democrat.
	J. W. Stith, 4 years	Republican.
	Charles Huckins, 2 years	Republican.
State Senator	Harrison N. Sykes	Republican.
Members House Representatives	S. W. Kelsey	Republican.
	James Hunter	Republican.

Justices of the Peace—John Gibb, William P. Flynn, Miles City; J. S. Prindle, J. D. Foster, Ismay; G. W. Barber, Chris Miller, Terry; Walter Hughes, F. D. Hasty, Baker; Amos Lambert, T. J. Martin, Ekalaka, James S. Drust, Carlyle; Elijah Townsend, Alzada.

DAWSON.

COUNTY SEAT—GLENDIVE.

Seventh Judicial District. Classification, Sixth.

Office.	Name.	Politics.
District Judge	Sidney Sanner	Democrat.
Sheriff	Andrew Larson	Democrat.
Treasurer	W. H. Frank	Republican.
Clerk and Recorder	R. L. Wyman	Republican.
Assessor	Anton H. Johnson	Republican.
Clerk of District Court	H. A. Sample	Republican.
Attorney	F. P. Leiper	Republican.
Superintendent of Schools	Lena Hackney	Republican.
Coroner	Neil Stewart	Republican.
Public Administrator	Thomas Kean	Republican.
Surveyor	R. T. Hurdle	Republican.
County Commissioners	W. K. Adams, 6 years	Republican.
	Henry Dion, 4 years	Republican.
	H. Mullendore, 2 years	Republican.
State Senator	George McCone	Republican.
Member House Representatives.	D. C. Maxwell	Republican.

Justices of the Peace—F. C. Hughes, E. C. Leonard, Glendive; E. A. Kenoyer, Sidney; Ray Wolfe, Fairview.

DEER LODGE.

COUNTY SEAT—ANACONDA.

Third Judicial District. Classification, Fifth.

Office.	Name.	Politics.
District Judge	George B. Winston	Republican.
Sheriff	James O'Keefe	Democrat.
Treasurer	W. J. Gallagher	Democrat.
Clerk and Recorder	M. P. Mahoney	Democrat.
Assessor	H. S. Neal	Republican.
Clerk of District Court	Barney Hogan	Democrat.
Attorney	W. H. Trippet	Democrat.
Superintendent of Schools	Echo Templeton	Republican.
Coroner	John Lawler	Democrat.
Public Administrator	A. Short	Republican.
Surveyor	W. F. Perrine	Democrat.
County Commissioners	W. J. Johnson, 6 years	Democrat.
	C. A. Tuttle, 4 years	Republican.
	Ed. Whitecraft, 2 years	Republican.
State Senator	Patrick J. Daly	Democrat.
Members House Representatives	W. J. Allen	Democrat.
	Ed. Burke	Democrat.
	Harold G. Mitchell	Democrat.
	Joseph S. Roy	Democrat.
	C. L. Swick	Republican.
	Harrie W. White	Republican.

Justices of the Peace—James Hicks, 119 Main St.; D. Cohen, Durston Block, Anaconda.

FERGUS.

COUNTY SEAT—LEWISTOWN.

Tenth Judicial District—Classification, Fifth.

Office.	Name.	Politics.
District Judge	Edwin K. Cheadle	Republican.
Sheriff	Ed. Martin	Democrat.
Treasurer	Grant Robinson	Democrat.
Clerk and Recorder	Charles L. Meyersick	Democrat.
Assessor	John S. Marshall	Democrat.
Clerk of District Court	John B. Ritch	Democrat.
Attorney	John C. Huntoon	Republican.
Superintendent of Schools	Orpha Noble	Republican.
Coroner	George R. Creel	Republican.
Public Administrator	S. W. Pennock	Republican.
Surveyor	Harry C. Tilzey	Republican.
County Commissioners	John M. Parent, 6 years	Democrat.
	Julius Peterson, 4 years	Democrat.
	William T. Neil, 2 years	Republican.
State Senator	Henry M. Rae	Republican.
Members House Representatives	Dr. C. W. Smith	Republican.
	Rufus B. Thompson	Republican.

Justices of the Peace—R. G. Sheill, Garniell, Fred Martin, Roundup; R. G. Jackson, Edward Brassey, Lewistown; P. W. Korell, Utica; T. J. Waddell, Stanford; David C. Linebarger, Orlando Sawyer, Gilt Edge.

FLATHEAD.

COUNTY SEAT—KALISPELL.

Eleventh Judicial District. Classification, Fourth.

Office.	Name.	Politics.
District Judge	John E. Erickson	Democrat.
Sheriff	William H. O'Connell	Democrat.
Treasurer	E. E. Day	Republican.
Clerk and Recorder	C. F. Young	Democrat.
Assessor	Michael Therriault	Democrat.
Clerk of District Court	Sam. D. McNeely	Republican.
Attorney	J. H. Stevens	Republican.
Superintendent of Schools	May Trumper	Republican.
Coroner	J. E. Waggoner	Republican.
Public Administrator	H. Swaney	Republican.
Surveyor	Charles P. Smith	Republican.
County Commissioners	Joseph A. Edge, 6 years	Democrat.
	R. W. Main, 4 years	Democrat.
	J. E. White, 2 years	Republican.
State Senator	Thomas D. Long	Democrat.
Members House Representatives	James Harbert	Republican.
	E. M. Hutchinson	Republican.
	H. C. Pomeroy	Republican.

Justices of the Peace—Sam Lowe, Somers; A. M. Wright, Big Fork; Thomas Carroll, Columbia Falls; M. J. Sullivan, E. L. Geddes, Whitefish; George W. Hathaway, James W. Hooper, Libby; E. R. Couchman, Eureka; Mike Petery, Fortine; S. L. Wallace, Kalispell; George E. Davis, Troy; F. Joe Rice, Kila.

GALLATIN.

COUNTY SEAT—BOZEMAN.

Ninth Judicial District. Classification, Fifth.

Office.	Name.	Politics.
District Judge	W. R. C. Stewart	Democrat.
Sheriff	A. H. Sales	Republican.
Treasurer	Clyde Corbly	Democrat.
Clerk and Recorder	W. E. Bandenburg	Republican.
Assessor	Sam N. Cowan	Democrat.
Clerk of District Court	J. A. Johnston	Republican.
Attorney	Benjamin B. Law	Democrat.
Superintendent of Schools	Clara Kremer	Republican.
Coroner	J. E. Ragsdale	Democrat.
Public Administrator	Paul J. Davies	Democrat.
Surveyor	C. M. Thorpe	Democrat.
County Commissioners	Charles R. Waterman, 6 years	Republican.
	William H. Davis, 4 years	Democrat.
	William S. Irwin, 2 years	Democrat.
State Senator	J. C. McCarthy	Democrat.
Members House Representatives	C. E. McCoy	Democrat.
	E. J. Owenhouse	Democrat.
	George R. Safley	Republican.

Justices of the Peace—George W. Ellis, W. Y. Smith, Bozeman; C. J. Odell, Manhattan; W. H. Axtell, J. H. Watson, Belgrade.

GRANITE.

COUNTY SEAT—PHILIPSBURG.

Third Judicial District. Classification, Eighth.

Office.	Name.	Politics.
District Judge	George B. Winston	Republican.
Sheriff	J. D. Kennedy	Republican.
Treasurer	Harry A. Featherman	Republican.
Clerk and Recorder	Frank E. Wileman	Republican.
Assessor	W. E. Albright	Democrat.
Clerk of District Court	George O. Burks	Republican.
Attorney	W. E. Moore	Republican.
Superintendent of Schools	Mrs. L. T. Irvine	Republican.
Coroner	William T. Allison	Republican.
Public Administrator	Louis Hendrickson	Republican.
Surveyor	Charles F. Donyes	Democrat.
County Commissioners	William Dingwall, 6 years	Republican.
	John W. Duffy, 4 years	Democrat.
	Arthur A. Fairbairn, 2 years	Democrat.
State Senator	George Metcalf	Republican.
Members House Representatives	Hugh T. Cumming	Republican.
	T. J. Hanifen	Democrat.

Justice of the Peace—Frank D. Sayrs, Philipsburg.

JEFFERSON.

COUNTY SEAT—BOULDER.

Fifth Judicial District—Classification, Seventh.

Office.	Name.	Politics.
District Judge	Lew L. Callaway	Republican.
Sheriff	P. J. Manning	Democrat.
Treasurer	W. B. Hundley	Democrat.
Clerk and Recorder	E. R. McCall	Republican.
Assessor	James H. Mitchell	Democrat.
Clerk of District Court	William T. Sweet	Democrat.
Attorney	D. M. Kelley	Democrat.
Superintendent of Schools	Leta M. Thompson	Democrat.
Coroner	Curtis Denbow	Republican.
Public Administrator	W. L. Beardsley	Democrat.
Surveyor	R. M. Cralle	Democrat.
County Commissioners	John H. Reilly, 6 years	Democrat.
	Farris Steele, 4 years	Democrat.
	J. B. Maxfield, 2 years	Democrat.
State Senator	Edward Cardwell	Democrat.
Members House Representatives	P. F. Dowling	Democrat.
	Fred R. Warren	Democrat.
	V. E. Wilham	Democrat.

Justices of the Peace—Thomas Hall, Boulder; Wilson Redding, Clancy; A. A. Marsh, James Brooks, Whitehall.

LEWIS AND CLARK.

COUNTY SEAT—HELENA.

First Judicial District—Classification, Second.

Office.	Name.	Politics.
District Judges	James M. Clements	Democrat.
	J. Miller Smith	Republican.
Sheriff	M. L. Higgins	Republican.
Auditor	T. H. Spratt	Republican.
Treasurer	T. B. Kirkenhall	Republican.
Clerk and Recorder	Martin Doty	Democrat.
Assessor	Frank F. Steele	Democrat.
Clerk District Court	F. L. Reece	Republican.
Attorney	H. S. Hepner	Democrat.
Superintendent of Schools	Maggie V. Smith	Democrat.
Coroner	E. L. Flaherty	Democrat.
Public Administrator	Samuel Schwab	Republican.
Surveyor	J. D. McLeod	Republican.
County Commissioners	Moses Root, 6 years	Republican.
	J. J. Hindson, 4 years	Republican.
	T. W. Richardson, 2 years	Republican.
State Senator	Charles N. Kessler	Republican.
Members House Representatives	Owen Byrnes	Democrat.
	H. L. Clayberg	Democrat.
	John Edgerton	Republican.
	Harry Hall	Republican.
	J. A. Shoemaker	Republican.
	J. A. Werner	Republican.
	M. A. Witmer	Republican.

Justices of the Peace—Terrence O'Donnell, S. W. Langhorne, Helena; A. F. Buchholz, Augusta; George W. Padbury, Marysville; Ralph Wells, Craig; D. S. Billet, East Helena; G. D. Flesher, Lincoln.

LINCOLN.

COUNTY SEAT—LIBBY.

Eleventh Judicial District. Classification, Eighth.

Office.	Name.	Politics.
District Judge	J. E. Erickson	Democrat.
Sheriff	M. A. Shannahan	Republican.
Treasurer	M. Brandenburg	Democrat.
Clerk and Recorder	R. T. Fleek	Republican.
Assessor	James Stonechest	Democrat.
Clerk of District Court	Philip R. Long	Democrat.
Attorney		
Superintendent of Schools	F. D. Head	Republican.
Coroner	Dr. A. D. Bogardus	Democrat.
Public Andministrator	M J. Brown	Democrat.
Surveyor	Sam Raderkin	Socialist.
County Commissioners	Elzeor Demers	Republican.
	Walter Wilder	Republican.
	Paul Pratt	Democrat.
State Senator		
Members House Representatives		

County created by Act approved March 9, 1909; effective July 1, 1909.

MADISON.

COUNTY SEAT—VIRGINIA CITY.

Fifth Judicial District—Classification, Sixth.

Office.	Name.	Politics.
District Judge	Lew L. Callaway	Republican.
Sheriff	Nicholas J. Traupter	Democrat.
Treasurer	R. N. Hawkins	Republican.
Clerk and Recorder	Robert S. Bailey	Republican.
Assessor	H. C. Vinson	Democrat.
Clerk of District Court	Matt Carey	Democrat.
Attorney	Julian A. Knight	Democrat.
Superintendent of Schools	Phoebe C. Williams	Republican.
Coroner	N. D. Johnson	Democrat.
Public Administrator	James C. Fitzpatrick	Democrat.
Surveyor	George H. Potter	Democrat.
County Commissioners	Charles Kyle, 6 years	Republican.
	Charles C. Hill, 4 years	Democrat.
	William D. Husted, 2 years	Democrat.
State Senator	Jacob Albright	Republican.
*Members House of Representatives	M. M. Duncan	Democrat.
	Frank S. Metzel	Republican.

* One seat vacant by reason of tie vote.

Justices of the Peace—Walter N. Payne, Virginia City; L. B. Olds, Pony; W. H. Godfrey, Sheridan; P. P. Gould, Twin Bridges.

MEAGHER.

COUNTY SEAT—WHITE SURPHUR SPRINGS.

Tenth Judicial District. Classification, Seventh.

Office.	Name.	Politics.
District Judge	Edwin K. Cheadle	Republican.
Sheriff	George L. Williams	Democrat.
Treasurer	J. W. Anderson	Democrat.
Clerk and Recorder	George Fowlie	Democrat.
Assessor	J. H. Stewart	Democrat.
Clerk of District Court	F. H. Mayn	Republican.
Attorney	W. L. Ford	Republican.
Superintendent of Schools	Belle Francisco	Democrat.
Coroner	J. D. Shorey	Republican.
Public Administrator	J. T. Harry	Republican.
Surveyor	F. J Spach	
County Commissioners	W. L. Starrett, 6 years	Democrat.
	M. T. Grande, 4 years	
	Charles B. Catlin, 2 years	
State Senator	Clarence P. Tooley	Republican.
Members House Representatives	S. A. Shaw	Republican.
	James T. Wood	Republican.

Justices of the Peace—E. G. Hartfield, White Sulphur Springs; Chris Ringhausen, Dorsey; George W. Gannon, S. L. Hodges, Harlowton; J. R. Bain, Judith Gap.

MISSOULA.

COUNTY SEAT—MISSOULA.

Fourth Judicial District. Classification, Fifth.

Office.	Name.	Politics.
District Judges	Frederic C. Webster	Republican.
	Henry L. Meyers	Democrat.
Sheriff	Davis Graham	Republican.
Treasurer	Hugh C. Kennedy	Democrat.
Clerk and Recorder	F. W. Kuphal	Democrat.
Assessor	Nelson P. Kroone	Republican.
Clerk of District Court	Thomas R. Conlon	Democrat.
Attorney	Edward C. Mulroney	Republican.
Superintendent of Schools	Pearl T. Marshall	Republican.
Coroner	W. D. Kenrick	Democrat.
Public Administrator	W. R. Evarts	Democrat.
Surveyor	James H. Bonner	Republican.
County Commissioners	Frank Nelson, 6 years	Democrat.
	Dennis T. Curran, 4 years	Democrat.
	Tyler Worden, 2 years	Republican.
State Senator	Edward Donlan	Republican.
Members House Representatives	David D. Bogart	Republican.
	Albert Butzerin	Republican.
	Charles A. Derry	Republican.
	Frank H. Woody	Democrat.

Justices of the Peace—Harry M. Small, Missoula; William S. Streeter, Superior; William Dyson, Missoula; A. Flaig, Saltese; J. C. Clemens, Frenchtown.

PARK.

COUNTY SEAT—LIVINGSTON.

Sixth Judicial District. Classification, Sixth.

Office.	Name.	Politics.
District Judge	Frank Henry	Republican.
Sheriff	Harry McCue	Democrat.
Treasurer	Joseph Brooks	Republican.
Clerk and Recorder	Ray H. Stevens	Republican.
Assessor	Z. H. Daniels	Republican.
Clerk of District Court	Arthur Davis	Republican.
Attorney	O. M. Harvey	Republican.
Superintendent of Schools	Ella North	Republican.
Coroner	S. E. Leard	Republican.
Public Administrator	M. J. Walsh	Democrat.
Surveyor	Charles T. Sackett	Republican.
County Commissioners	Jerome Cobb, 6 years	Democrat.
	M. H. Lashorn, 4 years	Republican.
	Erve G. Blair, 2 years	Republican.
State Senator	John M. Conrow	Democrat.
Members House Representatives	Fred L. Gibson	Republican.
	Carl Lehrkind	Democrat.

Justices of the Peace—Frank Bender, H. V. Church, Livingston; W. H. Brooking, Fridley; William Ralph, Aldridge; Frank Dean, William Menefee, Gardiner; Frank O. Sholty, Cooke City; Geo. M. Coe, Myersburg; John Uhl, Clyde Park.

POWELL.

COUNTY SEAT—DEER LODGE.

Third Judicial District. Classification, Seventh.

Office.	Name.	Politics.
District Judge	George B. Winston	Republican.
Sheriff	Joseph E. Neville	Republican.
Treasurer	J. P. Wyckoff	Republican.
Clerk and Recorder	Warren E. Evans	Republican.
Assessor	John A. Shaw	Democrat.
Clerk of District Court	R. Lee Kelley	Democrat.
Attorney	S. P. Wilson	Republican.
Superintendent of Schools	Maggie Jensen	Democrat.
Coroner	Albert Bien	Republican.
Public Administrator	D. C. Frint	Republican.
Surveyor	Lee Williams	Republican.
County Commissioners	J. E. Manley, 6 years	Republican.
	George Cockrell, 4 years	Democrat.
	W. H. Whitehill, 2 years	Republican.
State Senator	Moncure Cockrell	Democrat.
Members House Representatives	W. T. Elliott	Democrat.

Justices of the Peace—Thomas W. Catlin, Geo. W. Carleton, Deer Lodge; J. M. Boles, Sunset; P. M. Ellsworth, Julius Hoffman, Helmville; W. I. Garrett, Elliston; Arthur Rippingale, Garrison; F. W. Getchell, Gold Creek; A. C. Glover, Avon.

RAVALLI.

COUNTY SEAT—HAMILTON.

Fourth Judicial District. Classification, Seventh.

Office.	Name.	Politics.
District Judges	Frederick C. Webster	Republican.
	Henry L. Meyers	Democrat.
Sheriff	William Ward	Democrat.
Treasurer	Thomas J. Hefling	Democrat.
Clerk and Recorder	George E. Reese	Republican.
Assessor	Henry Porter	Republican.
Clerk of District Court	Arthur C. Baker	Republican.
Attorney	R. Lee McCulloch	Democrat.
Superintendent of Schools	Nora Smithey	Democrat.
Coroner	K. H. Kellogg	Republican.
Public Administrator	J. N. Taylor	Republican.
Surveyor	Leonard Oertli	Democrat.
County Commissioners	O. C. Cooper, 6 years	Republican.
	John S. Treece, 4 years	Democrat.
	Joseph Appolonio, 2 years	Republican.
State Senator	Miles Romney	Democrat.
Members House Representatives	Charles M. Crutchfield	Democrat.
	H. Clay Groff	Democrat.

Justices of the Peace—E. C. Whaley, A. J. White, Hamilton; J. W. Middleton, Grantsdale; W. G. Smith, George W. Solleder, Darby; A. B. Hoblitt, Corvallis; S. Sedgwick, Stevensville.

ROSEBUD.

COUNTY SEAT—FORSYTH.

Thirteenth Judicial District. Classification, Sixth.

Office.	Name.	Politics.
District Judge	Sidney Fox	Democrat.
Sheriff	R. J. Grey	Democrat.
Treasurer	Harry Butterfield	Republican.
Clerk and Recorder	R. J. Cole	Republican.
Assessor	Walter Lane	Republican.
Clerk of District Court	D. J. Muri	Republican.
Attorney	George A. Horkar	Republican.
Superintendent of Schools	Mrs. E. M. Haywood	Democrat.
Coroner	Peter Droese	Republican.
Public Administrator	R. W. Snook	Republican.
Surveyor	A. B. Chatten	Republican.
County Commissioners	Thomas Alexander, 6 years	Democrat
	F. S. Squier, 4 years	Republican.
	T. W. Longley, 2 years	Democrat.
State Senator	J. E. Edwards	Republican.
Member House Representatives.	George W. Brewster	Republican.

Justice of the Peace—Ed Adams, Forsyth.

SANDERS.

COUNTY SEAT—THOMPSON.

Fourth Judicial District—Classification, Seventh.

Office.	Name.	Politics.
District Judges	Frederick C. Webster	Republican.
	Henry L. Meyers	Democrat.
Sheriff	Clyde E. Baker	Republican.
Treasurer	W. E. Christopher	Republican.
Clerk and Recorder	L. C. Rinard	Republican.
Assessor	S. L. Vanderpool	Democrat.
Clerk of District Court	W. E. Nippert	Republican.
Attorney	H. C. Schultz	Independent.
Superintendent of Schools	Helen Feeney	Republican.
Coroner	H. H. Hattery	Republican.
Public Administrator	L. C. Larson	Republican.
Surveyor	J. H. Brauer	Republican.
County Commissioners	W. A. Beebe	Democrat.
	Alex Schulstad	Democrat.
	C. H. Doenges	Democrat.
State Senator	Charles E. Fairbanks	Republican.
Member House Representatives.	J. D. Garber	Democrat.

Justices of the Peace—J. S. Lewis, George A. Toulmin, Plains; Ed. Fitzgerald, Thompson; R. A. Chapel, Heron.

SILVER BOW.

COUNTY SEAT—BUTTE.

Second Judicial District. Classification, First.

Office.	Name.	Politics.
District Judges	Michael Donlan	Democrat.
	John B. McClernan	Democrat.
	Jeremiah J. Lynch	Democrat.
Sheriff	John K. O'Rourke	Democrat.
Auditor	Thomas Pendergast	Democrat.
Treasurer	Charles E. Meagher	Democrat.
Clerk and Recorder	M. Kerr Beadle	Democrat.
Assessor	P. S. Sullivan	Democrat.
Clerk of District Court	John J. Foley	Democrat.
Attorney	Thomas J. Walker	Democrat.
Superintendent of Schools	Mrs. Margaret Hogan	Democrat.
Coroner	Henry Davenport	Democrat.
Public Administrator	A. B. Melzner	Democrat.
Surveyor	William J. McMahon	Democrat.
County Commissioners	James M. Riley, 6 years	Democrat.
	J. H. Cronin, 4 years	Democrat.
	G. R. Brown, 2 years	Democrat.
State Senator	W. H. Haviland	Democrat.
Members House Representatives	John Berkin	Democrat.
	H. A. Frank	Democrat.
	Henry Giovannetti	Democrat.
	J. S. Hammond	Democrat.
	T. S. Kilgallon	Democrat.
	James King	Democrat.
	E. C. Largey	Democrat.
	Patrick Lowney	Democrat.
	W. W. McDowell	Democrat.
	John MacGinniss	Democrat
	T. J. Norton	Democrat.
	Neil O'Donnell	Democrat.

Justices of the Peace—Henry Foley, 39 W. Granite, Butte; Michael Egan, 37 W. Granite, Butte.

SWEET GRASS.

COUNTY SEAT—BIG TIMBER.

Sixth Judicial District—Classincation, Seventh.

Office.	Name.	Politics.
District Judge	Frank Henry	Republican.
Sheriff	O. A. Fallang	Republican.
Treasurer	Herman Utermohle	Democrat.
Clerk and Recorder	James A. Bailey	Democrat.
Assessor	J. W. Davis	Republican.
Clerk of District Court	F. M. Lamp	Republican.
Attorney	J. T. Vaughn	Republican.
Superintendent of Schools	Minerva Powell	Republican.
Coroner	J. H. Moore	Republican.
Public Administrator	E. C. Hale	Republican.
Surveyor	D. J. Walvoord	Republican.
County Commissioners	John Esp, 6 years	Republican.
	George A. Loasby, 4 years	Republican.
	John Rye, 2 years	Republican.
State Senator	Charles McDonnell	Republican.
Member House Representatives.	A. B. Coit	Republican.

Justices of the Peace—T. G. Shipton, A. B. Carter, Big Timber.

TETON.

COUNTY SEAT—CHOUTEAU.

Eighth Judicial District. Classification, Sixth.

Office.	Name.	Politics.
District Judge	H. H. Ewing	Democrat.
Sheriff	K. McKenzie	Republican.
Treasurer	A. C. Burbank	Republican.
Clerk and Recorder	E. C. Garrett	Republican
Assessor	Cal Binford	Republican.
Clerk of District Court	James Gibson	Republican.
Attorney	O. D. Gray	Democrat.
Superintendent of Schools	Fannie M. Anderson	Republican.
Coroner	C. H. Connor	Republican.
Public Administrator	E. J. Roberson	Republican.
Surveyor	George W. Weed	Republican.
County Commissioners	Henry Ryan, 6 years	Republican.
	George F. Miller, 4 years	Republican.
	H. F. Hughes, 2 years	Republican.
State Senator	William Cowgill	Republican.
Member House Representatives.	Martin Jacobson	Republican.

Justices of the Peace—J. H. DeHaas, Chouteau; Severt I. Syse, Farmington; F. H. Federhen, Dupuyer; J. E. Fitzpatrick, Sweet Grass; Charles N. Thomas, Cut Bank.

VALLEY.

COUNTY SEAT—GLASGOW.

Twelfth Judicial District. Classification, Sixth.

Office.	Name.	Politics.
District Judge	John W. Tattan	Democrat.
Sheriff	S. C. Small	Democrat.
Treasurer	Lyman Barnes	Democrat.
Clerk and Recorder	W. B. Shoemaker	Republican.
Assessor	James Fox	Republican.
Clerk of District Court	Clarence C. Beede	Republican.
Attorney	Thomas Dignan	Democrat.
Superintendent of Schools	Lillian D. Harris	Republican.
Coroner	Charles E. Peterson	Republican.
Public Administrator	Jacob Seel	Republican.
Surveyor	W. H. Mann	Republican.
County Commissioners	James T. Farris, 6 years	Republican.
	Andrew Davidson, 4 years	Republican.
	William McBride, 2 years	Republican.
State Senator	J. C. Truscott	Democrat.
Member House Representatives.	Frank C. Arnett	Republican.

YELLOWSTONE.

COUNTY SEAT—BILLINGS.

Thirteenth Judicial District. Classification, Fourth.

Office.	Name.	Politics.
District Judge	Sidney Fox	Democrat.
Sheriff	John C. Orrick	Republican.
Treasurer	Ira L. Whitney	Republican.
Clerk and Recorder	A Bruce Renwick	Republican.
Assessor	A. P. Smith	Republican.
Clerk of District Court	Fred L. Foster	Democrat.
Attorney	Harry L. Wilson	Republican.
Auditor	Joseph Sleeper	Republican.
Superintendent of Schools	Sara E. Morse	Republican.
Coroner	G. Herman Smith	Republican.
Public Administrator	Charles C. Sanderson	Republican.
Surveyor	B. C. Lillis	Republican.
County Commissioners	Charles H. Newman, 6 years	Republican.
	Gwen F. Burla, 4 years	Democrat.
	M. W. Cramer, 2 years	Republican.
State Senator	J. B. Annin	Republican.
Member House Representatives.	Frank B. Connelly	Republican.

Justices of the Peace—James Clifford, W. F. Holder, Custer; F. L. Mann, C. E. Smith, Billings; S. W. Pickens, Laurel; W. A. Hansford, Park City; Geo. A. Waterman, Broadview; J. W. Ainley, J. R. Brennan, Columbus; W. F. Strevit, M. M. Klein, Roundup; H. W. Ostrander, Fattig; Edgar Correy, Musselshell; James Collier, F. J. Cox, Huntley; J. W. Johnson, Hardin; J. C. Foster, Foster.

ELECTION RETURNS.

Result of the Official Count of Ballots Cast at Election of November 3, 1908, for Presidential, Congressional and State Officers.

COUNTIES.	President.					Congress.			Governor.		
	Taft, R.	Bryan, D.	Debs, S.	Hissgen, Ind.	Chafin, Pro.	Pray, R.	Long, D.	Duncan, S.	Donlan, R.	Norris, D.	Hazleton, S.
Beaverhead	878	739	70	1	2	914	735	45	740	980	38
Broadwater	326	495	36	....	4	333	473	30	332	486	27
Carbon	1,205	844	247	4	17	1,248	835	230	1,244	866	217
Cascade	1,935	1,888	451	7	32	2,044	1,724	403	1,789	2,033	364
Chouteau	1,220	893	109	3	4	1,476	627	72	1,180	913	79
Custer	967	531	84	4	8	943	548	68	898	636	64
Dawson	927	439	77	3	10	905	404	62	899	445	60
Deer Lodge	1,377	1,611	122	10	33	1,340	1,601	87	1,238	1,789	76
Fergus	1,529	1,112	257	4	14	1,557	1,145	246	1,481	1,259	223
Flathead	1,838	1,480	356	4	39	1,549	2,029	247	1,895	1,535	305
Gallatin	1,519	1,485	160	3	52	1,541	1,463	129	1,449	1,637	113
Granite	369	485	54	2	2	423	434	56	392	488	54
Jefferson	546	714	109	3	20	579	683	87	501	803	75
Lewis and Clark	2,033	2,062	303	14	18	2,100	1,904	262	1,910	2,250	266
Madison	964	1,029	52	7	13	974	1,004	51	867	1,128	48
Meagher	495	314	17	2	3	503	305	15	490	335	12
Missoula	1,856	1,780	341	5	40	1,836	1,735	308	1,968	1,850	235
Park	1,305	952	264	4	38	1,348	977	238	1,271	1,151	221
Powell	599	560	34	7	7	587	553	28	573	583	28
Ravalli	1,045	859	209	3	57	1,034	835	174	876	1,086	170
Rosebud	515	335	19	3	8	521	232	17	465	301	17
Sanders	473	325	55	3	4	464	331	45	485	368	30
Silver Bow	4,618	6,255	2,126	380	277	4,687	6,115	2,165	4,194	6,779	2,193
Sweet Grass	526	264	35	....	....	529	263	24	510	286	26
Teton	622	358	46	3	1	621	376	31	595	394	32
Valley	843	503	67	1	12	906	494	62	868	552	60
Yellowstone	1,803	1,114	155	1	112	1,857	1,177	136	1,718	1,349	129
Totals	32,333	29,326	5,855	481	827	32,819	29,032	5,318	30,792	32,282	5,112

ELECTION RETURNS—(Continued.)

Result of the Official Count of Ballots Cast at Election of November 3, 1908, for Presidential, Congressional and State Officers.

COUNTIES.	Lieutenant Governor.			Associate Justice of Supreme Court.			Secretary of State.			Attorney General.		
	Allen, R.	Swindlehurst, D.	Buzzell, S.	Holloway, R.	Johnson, D.	Maury, S.	Yoder, R.	Romney, D.	Harvey, S.	Galen, R.	Tolan, D.	Parr, S.
Beaverhead	870	791	39	952	702	38	929	720	39	944	711	41
Broadwater	315	475	27	371	420	25	318	461	27	367	428	38
Carbon	1,236	840	217	1,233	846	210	1,213	835	225	1,232	829	221
Cascade	1,880	1,802	393	2,023	1,678	405	1,953	1,697	415	1,976	1,692	423
Chouteau	1,211	814	82	1,240	760	84	1,209	765	90	1,210	790	81
Custer	921	569	62	935	565	66	934	544	76	931	542	65
Dawson	891	425	62	904	426	61	911	403	62	897	402	60
Deer Lodge	1,681	1,340	65	1,619	1,353	84	1,371	1,522	83	1,205	1,807	75
Fergus	1,508	1,172	231	1,546	1,208	240	1,532	1,105	255	1,560	1,096	243
Flathead	1,856	1,465	329	1,882	1,490	305	1,805	1,507	295	1,774	1,536	298
Gallatin	1,507	1,498	118	1,729	1,302	116	1,792	1,436	121	1,453	1,535	122
Granite	416	426	52	449	395	51	416	426	50	408	436	50
Jefferson	564	688	80	625	644	81	600	646	81	642	625	88
Lewis and Clark	1,990	2,045	231	2,175	1,818	235	2,122	1,846	243	2,204	1,859	238
Madison	953	1,020	49	986	978	52	990	1,041	51	973	990	48
Meagher	493	317	13	510	299	15	481	315	17	492	313	15
Missoula	1,927	1,696	281	1,943	1,635	301	1,710	1,870	298	1,725	1,881	301
Park	1,030	1,426	215	1,368	987	240	1,323	992	246	1,381	966	237
Powell	591	533	28	616	503	29	571	542	27	555	571	30
Ravalli	1,006	872	164	1,068	808	172	806	1,166	148	1,003	870	166
Rosebud	485	257	16	486	253	18	503	233	18	501	233	16
Sanders	466	336	42	493	299	49	454	340	43	457	337	45
Silver Bow	4,692	6,159	2,136	4,946	5,903	2,136	4,806	6,037	2,149	4,848	6,005	2,142
Sweet Grass	504	276	27	523	255	27	524	252	26	532	248	25
Teton	610	365	34	617	359	33	612	361	31	611	363	33
Valley	871	509	59	877	495	59	871	502	58	867	509	59
Yellowstone	1,789	1,215	131	1,569	1,489	119	1,825	1,158	134	1,869	1,131	129
Totals	32,263	29,331	5,183	33,685	27,870	5,251	32,581	28,722	5,308	32,617	28,703	5,289

ELECTION RETURNS—(Continued.)

Result of the Official Count of Ballots Cast at Election of November 3, 1908, for Presidential, Congressional and State Officers.

COUNTIES.	Treasurer.			Auditor.			Superintendent of Public Instruction.		
	Esselstyn, R.	Goodwin, D.	Powers, S.	Cunningham, R.	Sherlock, D.	Castle, S.	Harmon, R.	Mountjoy, D.	Etta Lyons, S.
Beaverhead	890	753	40	937	710	41	917	729	41
Broadwater	300	485	29	305	497	25	327	455	28
Carbon	1,366	733	203	1,234	806	222	1,233	815	221
Cascade	1,849	1,783	424	2,001	1,630	415	2,003	1,635	426
Chouteau	1,092	890	81	1,222	762	76	1,206	746	88
Custer	890	582	69	936	532	64	934	518	70
Dawson	876	438	60	895	408	59	893	409	62
Deer Lodge	1,284	1,616	87	1,425	1,479	83	1,383	1,526	83
Fergus	1,486	1,174	240	1,537	1,117	237	1,540	1,102	244
Flathead	1,805	1,539	299	1,867	1,472	304	1,865	1,474	320
Gallatin	1,440	1,524	123	1,543	1,427	128	1,673	1,342	125
Granite	388	458	54	426	403	50	405	438	49
Jefferson	525	725	81	560	726	78	535	700	84
Lewis and Clark	1,872	2,097	248	2,321	1,683	226	2,142	1,788	241
Madison	936	1,029	50	971	991	50	818	1,166	45
Meagher	474	317	15	485	313	15	483	303	15
Missoula	1,712	1,844	301	1,898	1,634	298	1,864	1,668	287
Park	1,291	1,032	245	1,382	930	247	1,356	942	272
Powell	562	556	30	575	523	24	565	542	29
Ravalli	978	899	163	1,035	782	214	1,031	819	171
Rosebud	489	251	13	506	227	14	510	222	16
Sanders	453	333	45	469	321	46	458	332	49
Silver Bow	4,265	6,635	2,178	5,018	5,876	2,117	4,745	6,069	2,169
Sweet Grass	497	285	24	529	248	12	543	233	10
Teton	601	366	31	605	362	32	619	356	31
Valley	843	532	55	886	499	56	886	483	58
Yellowstone	1,910	1,135	128	1,848	1,143	119	1,840	1,139	130
Totals	31,074	30,011	5,316	33,416	27,501	5,252	32,774	27,951	5,364

ELECTION RETURNS—(Continued.)

Result of the Official Count of Ballots Cast at Election of November 3, 1908, for Presidential, Congressional and State Officers.

COUNTIES.	Railroad Commissioners.								
	Boyle, R. Six years.	Nevin, D. Six years.	Peugh, S. Six years.	Stanton, R. Four years.	Violette, D. Four years.	Gilchrist, S. Four years.	Morley, R. Two years.	Newman, D. Two years.	Billings, S. Two years.
Beaverhead	899	719	38	919	704	39	915	727	39
Broadwater	335	447	23	328	448	20	316	456	19
Carbon	1,226	817	224	1,201	806	233	1,194	819	219
Cascade	1,870	1,768	432	1,939	1,662	423	1,780	1,825	425
Chouteau	1,178	811	72	1,182	764	73	1,010	994	63
Custer	926	532	65	917	529	66	897	526	67
Dawson	905	385	53	884	396	53	868	405	53
Deer Lodge	1,322	1,588	76	1,357	1,521	75	1,351	1,519	77
Fergus	1,508	1,113	237	1,508	1,128	241	1,497	1,149	242
Flathead	1,827	1,450	310	1,829	1,465	315	1,845	1,474	342
Gallatin	1,584	1,420	112	1,628	1,365	122	1,520	1,432	120
Granite	411	422	48	410	422	51	404	422	50
Jefferson	575	655	81	586	638	85	561	666	86
Lewis and Clark	2,120	1,818	265	2,093	1,806	261	1,967	1,930	256
Madison	954	1,001	50	979	977	48	965	981	45
Meagher	486	311	10	473	317	10	466	324	8
Missoula	1,919	1,653	294	1,427	2,170	285	1,785	1,661	298
Park	1,561	818	246	1,355	943	254	1,338	931	251
Powell	567	547	28	581	508	29	563	514	27
Ravalli	1,005	815	182	992	825	186	1,010	810	186
Rosebud	502	234	15	480	231	18	486	233	17
Sanders	479	313	45	451	330	65	451	318	46
Silver Bow	4,633	6,215	2,179	4,790	5,988	2,171	4,814	6,017	2,155
Sweet Grass	537	245	12	521	248	11	523	246	11
Teton	614	356	29	608	350	29	604	344	29
Valley	859	506	63	844	498	59	837	507	61
Yellowstone	1,860	1,153	129	1,816	1,135	130	1,791	1,183	129
Totals	32,662	28,112	5,318	32,098	28,174	5,362	31,758	28,413	5,316

ELECTION RETURNS—(Concluded.)

Result of the Official Count of Ballots Cast at Election of November 3, 1908, for Presidential, Congressional and State Officers.

COUNTIES.	For the Amendment providing for the care and management of public moneys, and for a State Depository Board.	Against the Amendment providing for the care and management of public moneys, and for a State Depository Board.	For the Amendment providing for an increase in the Tax levy.	Against the Amendment providing for an increase in the Tax levy.	For the law authorizing a state bond issue.	Against the law authorizing a state bond issue.
Beaverhead	887	182	398	623	729	295
Broadwater	408	89	127	369	316	165
Carbon	1,038	440	500	966	878	549
Cascade	2,185	720	857	1,848	1,785	951
Chouteau	1,037	394	321	1,078	788	517
Custer	773	306	314	804	701	423
Dawson	789	312	248	908	....	....
Deer Lodge	2,143	316	669	1,257	1,412	534
Fergus	1,536	443	554	1,718	1,287	765
Flathead	1,953	477	676	1,948	1,660	985
Gallatin	1,553	608	593	1,688	1,468	779
Granite	447	159	161	450	385	258
Jefferson	753	232	332	544	669	290
Lewis and Clark	2,616	546	1,130	1,995	2,305	866
Madison	1,052	260	346	910	730	403
Meagher	480	100	188	378	398	176
Missoula	2,511	581	1,087	2,023	2,211	943
Park	1,077	534	502	1,045	932	642
Powell	594	145	262	493	....	....
Ravalli	654	447	563	566	737	364
Rosebud	496	160	201	432	423	213
Sanders	590	136	216	506	452	270
Silver Bow	986	1,571	1,777	893	1,404	1,121
Sweet Grass	469	158	178	445	427	192
Teton	582	148	304	429	498	243
Valley	539	236	290	522	575	282
Yellowstone	1,125	953	1,289	868	1,639	684
Totals	29,273	10,653	14,184	25,706	24,809	12,910

Post Offices in Montana.

Postoffice.	County.
Absarokee	Carbon
Ada	Chouteau
Adams	Dawson
Adel	Cascade
Albright	Cascade
Alder	Madison
Aldridge	Park
Alhambra	Jefferson
Allard	Dawson
Alma	Chouteau
Alta	Ravalli
Alzada	Custer
Amazon	Jefferson
Anaconda	Deer Lodge
Apex	Beaverhead
Argenta	Beaverhead
Argo	Broadwater
Arlee	Missoula
Armelia	Fergus
Armington	Cascade
Armstead	Beaverhead
Arrow	Cascade
Ashland	Rosebud
Augusta	Lewis and Clark
Austin	Lewis and Clark
Avery	Chouteau
Avon	Powell
Babb	Teton
Baeth	Valley
Bainville	Valley
Baird	Missoula
Baker	Custer
Ballantine	Yellowstone
Bannack	Beaverhead
Barr	Valley
Basin	Jefferson
Bearcreek	Carbon
Bearmouth	Granite
Beatrice	Chouteau
Beaver	Sanders
Beaverton	Valley
Beebe	Custer
Belfry	Carbon
Belgrade	Gallatin
Belknap	Sanders
Belleview	Teton
Cascade	Cascade
Castle	Meagher
Celar	Custer
Central Park	Gallatin
Chance	Carbon
Chesnut	Gallatin
Chester	Chouteau
Chico	Park
Chimney Rock	Park
Chinook	Chouteau
Choteau	Teton
Circle	Dawson
Clancy	Jefferson
Clara	Fergus
Clear Creek	Chouteau
Clearwater	Powell
Clemons	Lewis and Clark
Cleveland	Chouteau
Clinton	Missoula
Clyde Park	Park
Coolridge	Valley
Coalville	Carbon
Coberg	Chouteau
Belt	Cascade
Bolton	Flathead
Bercail	Meagher

Postoffice.	County
Bigelk	Meagher
Bigfork	Flathead
Bighorn	Rosebud
Big Sandy	Chouteau
Big Timber	Sweet Grass
Billings	Yellowstone
Birdseye	Lewis and Clark
Birney	Rosebud
Blackfoot	Teton
Blaine	Madison
Blatchford	Custer
Bonita	Missoula
Bonner	Missoula
Boots	Custer
Boulder	Jefferson
Bowen	Beaverhead
Bowler	Carbon
Box Elder	Chouteau
Boyes	Custer
Bozeman	Gallatin
Brandenberg	Custer
Bridger	Carbon
Briston	Beaverhead
Broadus	Custer
Broadview	Yellowstone
Brockton	Valley
Brookside	Chouteau
Browning	Teton
Bruffey's	Park
Buckey	Yellowstone
Buffalo	Fergus
Burns	Dawson
Busby	Rosebud
Busteed	Sweet Grass
Butte	Silver Bow
South Butte. Station "A," 27 W. Park St.	
Bynum	Teton
Cable	Deer Lodge
Calvert	Cascade
Camas	Sanders
Cameron	Madison
Canton	Broadwater
Canyon Creek	Lewis and Clark
Capitol	Custer
Carlyle	Custer
Cohagen	Dawson
Coldspring	Jefferson
Collins	Teton
Columbia Falls	Flathead
Columbus	Yellowstone
Como	Ravalli
Connor	Ravalli
Conrad	Teton
Contact	Park
Cooke	Park
Corbin	Jefferson
Corvallis	Ravalli
Cowan	Valley
Craig	Lewis and Clark
Creston	Flathead
Crow Agency	Rosebud
Culbertson	Valley
Custer	Yellowstone
Cut Bank	Teton
Cyr	Missoula
Dagmar	Valley
Daleview	Valley
Dane Valley	Valley
Darby	Ravalli
Dayton	Flathead
Dean	Carbon
Deborgia	Missoula

Postoffice.	County.
Decker	Rosebud
Deer Lodge	Powell
Dell	Beaverhead
Delphia	Yellowstone
Delpine	Meagher
Denton	Fergus
Dewey	Beaverhead
Dick	Rosebud
Dillon	Beaverhead
Divide	Silver Bow
Dixon	Sanders
Dodson	Chouteau
Dorsey	Meagher
Drummond	Granite
Dupuyer	Teton
East Helena	Lewis and Clark
Eddy	Sanders
Ekalaka	Custer
Eldridge	Gallatin
Electric	Park
Elizabeth	Teton
Elkhorn	Jefferson
Elk Park	Jefferson
Elliston	Powell
Elmdale	Dawson
Elso	Fergus
Enid	Dawson
Ennis	Madison
Enterprise	Valley
Ericson	Custer
Essex	Flathead
Etna	Custer
Eureka	Flathead
Evans	Cascade
Evaro	Missoula
Everson	Fergus
Ewalt	Custer
Fairfield	Teton
Fairview	Dawson
Fallon	Custer
Family	Teton
Farmington	Teton
Fattig	Yellowstone
Fergus	Fergus
Fishtail	Carbon
Fishtrap	Deer Lodge
Flatwillow	Fergus
Flesher	Lewis and Clark
Flint	Meagher
Florence	Ravalli
Forest Grove	Fergus
Forsyth	Rosebud
Ft. Assinniboine	Chouteau
Ft. Benton	Chouteau
Fortine	Flathead
Ft. Logan	Meagher
Ft. Maginnis	Fergus
Ft. Shaw	Cascade
Ft. William Henry Harrison, Station "A," Helena	Lewis and Clark
Foster	Yellowstone
Fox	Beaverhead
Frazer	Valley
French Gulch	Deer Lodge
Frenchtown	Missoula
Fridley	Park
Fromberg	Carbon
Fullerton	Fergus
Fulton	Lewis and Clark
Gage	Fergus
Galpin	Valley
Gardiner	Park
Garland	Custer
Garneill	Fergus
Garnet	Granite
Garrison	Powell
Gateway	Flathead
Geyser	Cascade
Gibbons	Beaverhead
Gibson	Yellowstone
Gildford	Chouteau
Gilt Edge	Fergus
Girard	Dawson
Glasgow	Valley
Glendive	Dawson
Glenwood	Broadwater
Gold Butte	Chouteau
Gold Creek	Powell
Golden	Carbon
Gossett	Dawson
Gould	Lewis and Clark

Postoffice.	County.
Graham	Custer
Grant	Beaverhead
Grantsdale	Ravalli
Grass Range	Fergus
Grayling	Gallatin
Great Falls	Cascade
Gregson	Silver Bow
Grey Cliff	Sweet Grass
Hall	Granite
Hamilton	Ravalli
Hardin	Yellowstone
Hardy	Cascade
Harlem	Chouteau
Harlowtown	Meagher
Harrison	Madison
Hathaway	Rosebud
Havre	Chouteau
Hays	Chouteau
Helena (Station "A," Ft. William Henry Harrison.)	Lewis and Clark
Hell Gate	Granite
Helmville	Powell
Henderson	Missoula
Heron	Sanders
Highwood	Chouteau
Hill	Chouteau
Hinsdale	Valley
Hockett	Custer
Hodges	Dawson
Hogan	Lewis and Clark
Holmes	Chouteau
Holter	Lewis and Clark
Home Park	Madison
Homestake	Jefferson
Homestead	Valley
Houskin	Cascade
Howard	Rosebud
Howie	Sweet Grass
Hubbart	Flathead
Hunter's Hot Springs	Park
Huntley	Yellowstone
Huson	Missoula
Hyde	Gallatin
Hysham	Rosebud
Irene	Fergus
Iron Mountain	Missoula
Ismay	Custer
Jackson	Beaverhead
Jardine	Park
Java	Dawson
Jeffers	Madison
Jefferson City	Jefferson
Jefferson Island	Jefferson
Jennings	Flathead
Jocko	Missoula
Johnson	Broadwater
Joliet	Carbon
Jones	Fergus
Jordan	Dawson
Josephine	Gallatin
Judith	Fergus
Judith Gap	Meagher
Kalispell	Flathead
Kendall	Fergus
Kibbey	Cascade
Kila	Flathead
Kirby	Rosebud
Kismet	Dawson
Knerville	Fergus
Knowlton	Custer
Laird	Chouteau
Lakeside	Valley
Lakeview	Madison
Lame Deer	Rosebud
Lanark	Valley
Landusky	Chouteau
Lat	Park
Laurel	Yellowstone
Laurin	Madison
Lavina	Fergus
Lee	Rosebud
Leedy	Valley
Lennep	Meagher
Lewis	Meagher
Lewistown	Fergus
Libby	Flathead
Lima	Beaverhead
Lincoln	Lewis and Clark
Lindsay	Dawson
Lismas	Valley

Postoffice.	County.
Livingston	Park
Lloyd	Chouteau
Lock	Rosebud
Lockwood	Yellowstone
Lodge Grass	Rosebud
Lodge Pole	Chouteau
Logan	Gallatin
Lo Lo	Missoula
Lo Lo Hot Springs	Missoula
Lombard	Broadwater
Long	Fergus
Lothrop	Missoula
Lowry	Teton
Luther	Carbon
Lyon	Madison
Lytle	Chouteau
McAllister	Madison
McLeod	Sweet Grass
McMillan	Dawson
Maddox	Chouteau
Maiden	Fergus
Malta	Valley
Manchester	Cascade
Manhattan	Gallatin
Marias	Chouteau
Marion	Flathead
Martini	Missoula
Martinsdale	Meagher
Marysville	Lewis and Clark
Mason	Broadwater
Maudlow	Gallatin
Medicine Lake	Valley
Melrose	Silver Bow
Melstone	Fergus
Melville	Sweet Grass
Merrill	Sweet Grass
Meversburg	Park
Midland	Custer
Midvale	Teton
Mildred	Custer
Miles City	Custer
Milk River	Valley
Millegan	Cascade
Miner	Park
Missoula	Missoula
Mitchell	Lewis and Clark
Mizpah	Custer
Monarch	Cascade
Mondak	Valley
Monida	Madison
Montfort	Flathead
Monument	Beaverhead
Moore	Fergus
Moorehead	Custer
Moseby	Dawson
Musselshell	Yellowstone
Nashua	Valley
Natal	Fergus
Nethart	Cascade
Nelson	Lewis and Clark
Newlon	Dawson
Nimrod	Missoula
Nine Mile	Missoula
Norris	Madison
Noxon	Sanders
Nye	Sweet Grass
Oka	Meagher
Oldham	Chouteau
Ophir	Powell
Osburn	Yellowstone
Oswego	Valley
Otter	Custer
Ovando	Powell
Pageville	Madison
Paradise	Sanders
Park City	Yellowstone
Pearl	Rosebud
Pederson	Valley
Peskan	Teton
Philbrook	Fergus
Philipsburg	Granite
Phillips	Chouteau
Pine Creek	Park
Pine Grove	Fergus
Pipestone Springs	Jefferson
Plains	Sanders
Pleasant Valley	Flathead
Plentywood	Valley
Polaris	Beaverhead
Polson	Flathead
Pony	Madison
Poplar	Valley
Porcupine	Park
Portage	Cascade
Potomac	Missoula
Powderville	Custer
Preston	Custer
Princeton	Granite
Pryor	Yellowstone
Quartz	Missoula
Race Track	Powell
Radersburg	Broadwater
Rancher	Rosebud
Ravalli	Missoula
Raymond	Teton
Red Lodge	Carbon
Red Rock	Beaverhead
Red Stone	Valley
Reed Point	Sweet Grass
Renova	Jefferson
Rexford	Flathead
Riceville	Cascade
Ridge	Custer
Ridgelawn	Dawson
Riedel	Chouteau
Rimini	Lewis and Clark
Ripley	Flathead
Rivulet	Missoula
Roberts	Carbon
Rochester	Madison
Rock Creek	Park
Rocker	Silver Bow
Rockvale	Carbon
Rogers	Fergus
Rollins	Flathead
Ronan	Missoula
Roscoe	Carbon
Rosebud	Rosebud
Rosemont	Ravalli
Ross	Dawson
Rothiemay	Fergus
Roundup	Fergus
Roy	Fergus
Ruby	Madison
Ryegate	Yellowstone
Sabra	Rosebud
Saco	Valley
Sadie	Custer
Saint Ignatius	Missoula
Saint Peter	Cascade
Saint Regis	Missoula
Saint Xavier	Rosebud
Salesville	Gallatin
Saltese	Missoula
Sand Cliffs	Chouteau
Sand Coulee	Cascade
Sanders	Rosebud
Sappington	Gallatin
Sarpy	Rosebud
Satchwell	Rosebud
Saypo	Teton
Scobey	Valley
Sedan	Gallatin
Selway	Custer
Shannon	Meagher
Shawmut	Meagher
Shelby	Teton
Sheridan	Madison
Shields	Park
Shirley	Custer
Shonkin	Chouteau
Sidney	Dawson
Silesia	Carbon
Silver	Lewis and Clark
Silver Bow	Silver Bow
Silver Star	Madison
Sixteen	Meagher
Snowshoe	Flathead
Snyder	Flathead
Somers	Flathead
South Butte, Station, Butte	Silver Bow
Spanish	Madison
Spion Kop	Cascade
Springdale	Park
Stacey	Custer
Stanford	Fergus
Stark	Missoula
Stearns	Lewis and Clark
Steele	Chouteau
Stemple	Lewis and Clark
Stevensville	Ravalli
Stockett	Cascade
Stone Shack	Custer

Postoffice.	County.
Straw	Fergus
Stryker	Flathead
Stuart	Deer Lodge
Sula	Ravalli
Sunnyside	Cascade
Sun River	Cascade
Sunset	Powell
Superior	Missoula
Sweet Grass	Teton
Taft	Missoula
Tampico	Valley
Teedee	Cascade
Terry	Custer
Teton	Chouteau
Thompson	Sanders
Three Buttes	Dawson
Three Forks	Gallatin
Tiger Butte	Cascade
Tokna	Dawson
Toston	Broadwater
Townsend	Broadwater
Trout Creek	Sanders
Troy	Flathead
Twin Bridges	Madison
Two Dot	Meagher
Ulm	Cascade
Unity	Meagher
Ural	Flathead
Utica	Fergus
Valentine	Fergus
Valleytown	Valley
Vandalia	Valley
Victor	Ravalli
Virgelle	Chouteau
Virginia City	Madison
Waco	Yellowstone
Wagner	Chouteau
Walkerville	Silver Bow
Warland	Flathead
Warm Springs	Deer Lodge
Warrick	Chouteau
Washoe	Carbon
Waterloo	Madison
Watson	Meagher
Weede	Fergus
Welch	Jefferson
West Butte	Chouteau
Whitcomb	Chouteau
Whitefish	Flathead
Whitehall	Jefferson
White Pine	Sanders
White Sulphur Springs	Meagher
Whitlash	Chouteau
Wibaux	Dawson
Wickes	Jefferson
Wilborn	Lewis and Clark
Wilder	eFrgus
Willis	Beaverhead
Willow Creek	Gallatin
Windham	Fergus
Winnecook	Meagher
Winston	Broadwater
Wisdom	Beaverhead
Wolf Creek	Lewis and Clark
Wolf Point	Valley
Wolsey	Meagher
Woodside	Ravalli
Woodville	Jefferson
Woodworth	Powell
Yale	Fergus
Yates	Dawson
York	Lewis and Clark
Zortman	Chouteau
Zurich	Chouteau

INDEX.

	Pages.
Agricultural College and Mechanic Arts—Directory of Executive Board and Faculty	285
Agriculture in Montana	88 to 123
Agriculture—Creameries	117
Dry land farming	105
Examples of production in Custer county	91
Farmers' organizations	118
Live stock	127 to 162
Natural precipitation and dry land farming	112
Sugar beets	115
Value of Montana farm crops, 1908	88
Value of all farm products in U. S.. 1908	88 to 123
Yields of grain at experiment stations	111
Anaconda—Population	13
Twenty-fifth anniversary of city celebrated	13
Assessed valuations	248
Bankruptcy—Referees in	275
Barley—Production of	90
Quality of in Gallatin valley	96
Beaverhead County—Description of and remarks in relation to	25
Directory of county officials	290
Farming in	96
Number of representatives from	275
Production of minerals, 1908	187 to 194
Big Horn Ditch Company	86
Big Horn Low Line Ditch Company	86
Big Timber Carey Land Act project	84
Big Timber—Population of	18
Billings—Adopted name	14
Chamber of Commerce invites correspondence	14
Odd Fellows' building	14
Polytechnic school	14
Population of	14
Proposed electric railway	14
Proposed manufactories	14
Sugar beet factory at	115
Bitter Root Fruit Growers' Association—name of secretary and statistician	125
Blackfeet Indian Reservation irrigation projects	73
Boards—Building and Loan Associations—Directory of State Board of Commissioners of	282
Carey Land Act Board—Directory of	281
Charities and Reform—Directory of State Board of	283
Dental Examiners—Directors of members	282
Education—Directory of State Board of	281
Equalization—Directory of State Board of	280
Examiners—Directory of State Board of	279
Furnishing—Directory of the State Board of	279
Health—Directory of the State Board of	282
Historical and Miscellaneous Library—Directory of	281
Horticulture—Directory of the State Board of	283
Insane—Directory of the State Board of Commissioners for	280
Land—Directory of the State Board of Land Commissioners	280
Law—Directory of the State Board of Trustees of the State Law Library	281
Medical Examiners—Directory of the State Board of	282
Normal School—Directory of the Executive Committee and Faculty of the State	284

	Pages.
Osteopathy—Directory of the State Board of	282
Pardons—Directory of the State Board of	280
Park Commissioners—Directory of the State Boards of for Great Falls and Helena	288
Pharmacy—Directory of the State Board of	282
Prison Commissioners—Directory of the State Board of	280
Sheep Commissioners—Directory of the State Board of Commissioners and Inspectors	289
Soldiers' Home—Directory of the Board of Managers	288
Stock Commissioners—Directory of the State Board of and Inspectors	288
Sub-experiment station, Billings—Directory of	286
Text Book Commissioners—Directory of the State Board of	281
University of Montana—Directory of the Executive Committee and Faculty	284
Boycott constitutional in Montana—Supreme Court decision	173 to 178
Bozeman—Adopted name	15
Cement walks built, 1908	15
Population	15
Proposed electric railway	15
Receipts and expenses of municipal water system	15
Broadwater County—Description of	23
Directory of county officials	290
Number of representatives from	275
Production of minerals	188 to 194
Building and Loan Associations—Directory of Board of Commissioners of	282
Butte—Bank deposits	11
Consumption of lumber in mines	11
Consumption of powder	11
Daily production of ore	11
Miles of electric railway	11
Miles of underground workings in mines	11
Miners employed	11
Monthly mine pay-rolls	11
Population	11
Campbell System of Dry Land Farming	108
Carbon County—Description of	25
Directory of county officials	291
Examples of farm production	93
Number of representatives from	275
Carey Land Act Board—Directory of members	281
Carey Land Act—Projects under	83
Reclamation by the State	81
Cascade County—Directory of county officials	291
Description of	24
Farming in	100
Number of representatives from	275
Precipitation	111
Production of minerals	188 to 195
Yields of grain at sub-experiment station	111
Chouteau County—Coal and gold	23
Comparative area	22
Description of	22
Directory of county officials	292
Number of representatives from	275
Precipitation in	22 and 111
Production of minerals	187 to 196
Yields of grain at sub-experiment station	111
Charities and Reform—Directory of State Board of	283
Children—Prohibition of employment	10
Climate	229 to 247
Coal—Area of coal lands	2 and 32
Coal Land Entries, 1873 to 1908	33
Coal production	225 to 228
Commissioners of deeds	273
Commissioners—United States	273
Compulsory insurance of employees	169 to 173
Consuls—Foreign in Montana	271
Copper—Production of	187 to 189
Production by counties	190

	Pages.
Congressmen from Montana	275
Conrad irrigation project	85
Corn—Production of	90
County Officials—Directory of	290 to 301
Court—Directory of State Supreme	278
Creameries	117
Crow Reservation Irrigation Project	74
Custer County—Description of	24
Directory of officials	292
Examples of farm production	91
Number of representatives from	275
Dawson County—Description of	24 and 104
Directory of county officials	292
Number of representatives from	275
Precipitation	111
Yields of grain at sub-experiment station	111
Deaf and Blind—School for the—Directory of board of trustees and management	287
Dearborn Carey Land Act Project	83
Deer Lodge County—Description of	23
Directory of county officials	293
Division on C., M. & St. P. Ry.	18
Farming in	99
Number of representatives from	275
Population	19
Production of minerals	187 to 196
Dental Examiners—Directory of State Board of	282
Desert Land—Entries of from 1877 to 1908	33
Dillon—Population of	17
Directory of county officials	290 to 301
Directory—Official	271 to 301
Postoffice	307 to 310
Divorces	267 to 268
Dredging	212 to 217
Drug Clerks' Strike	166
Dry Land Farming	105
Campbell system of	108
Instructions in regard to	106
Education—Directory of State Board of	281
Eight-Hour Law	168
Election Returns	302 to 306
Employers' Liability and Compulsory Insurance	169 to 173
Equalization—Directory of the State Board of	280
Examiners—Directory of the State Board of	279
Experiment Station—Directory of the Executive Board	285
Sub at Billings—Directory of the Board of Directors	286
Farmers' Organizations—Flathead Farmers' Protective Association	122
Free Farmers' Union	123
Gallatin County Farmers' Alliance	118
Fergus County—Description of	24
Directory of county officials	293
Examples of farm production	92
Number of representatives from	275
Production of minerals	187 to 197
Flathead County—Climate	23
Description of	23
Directory of county officials	294
Number of representatives from	275
Production, yield and climate	99
Production of minerals	188 to 198
Fruit Growers' Association—Officers of	125
Flax—Production of	89
Forest Reserves—Area and number of	49
Christmas trees cut in the United States	53
Estimate of standing timber in Montana	54
Fire losses in	53
Homesteading on	51
Lumber consumed in United States each year	53
Name, area and supervisor of each	53

	Pages.
Number of grazing permits and men employed	53 to 55
Officials in charge	49 to 54
Planting stations	53
Revenue from and distribution by counties	49 to 50
Forestry Service—Directory of	272
Forysth—Population of	18
Fort Peck Indian Reservation Project	76
Free Farmers' Union	123
Frosts	232
Fruit Growers' Associations—Bitter Root Fruit Growers' Association	125
Flathead County Fruit Growers' Association	125
Fruit Inspectors—Directory of	283
Furnishing Board—Directory of the State	279
Gallatin County—Area under cultivation	96
Description of	25
Directory of county officials	294
Examples of farm production	96
Farming in	95
Examples of farm production	102
Number of representatives from	275
Prices of wheat, oats, barley and rye, 1907	96
Yield of grain	96
Gambling prohibited	10
Glendive—Population of	18
Gold—Production of	187 to 190
Granite County—Description of	23
Directory of county officials	294
Farming in	99
Number of representatives from	275
Production of minerals	187 to 198
Great Falls—Population of	11
Water power	12
Great Falls Water Power and Townsite Co	223
Havre—Population of	16
Hay—Production of	90
Health—Directory of the State Board of	282
Helena—Acres of land proposed to irrigate near	13
Electrical power	13
Irrigation project	75
Population of	12
Historical Society—Directory of Board of Trustees of State Historical and Miscellaneous Library	281
Homesteads—Entries at Miles City U. S. Land Office	90
Homesteading—Law in relation to	33 to 45
Hospitals—Number in the State	9
Horticulture—Directory of the State Board of and fruit inspectors	283
Freedom from fruit pests	124
Fruit growers' associations	125
Fruit inspected	124
Trees in Flathead valley	125
Trees inspected in local nurseries	124
Trees shipped into State, 1907 and 1908	124
Huntley Irrigation Project	66 to 69
Hysham Co-Operation Ditch Co	86
Immigration Service—Directory of	271
Indebtedness—Constitutional limits of	10
Indian Reservations—Area of	32
Opening of Flathead, Fort Peck, Blackfeet and Crow	46 to 48
Insane Asylum—Commitments to, 1906 and 1907	252 to 255
Directory of State	283
Inspectors—Directory of fruit	283
Sheep—Directory of	289
Stock—Directory of	289
Insurance—Employers' compulsory	169 to 173
Irrigation	57 to 87

Pages.

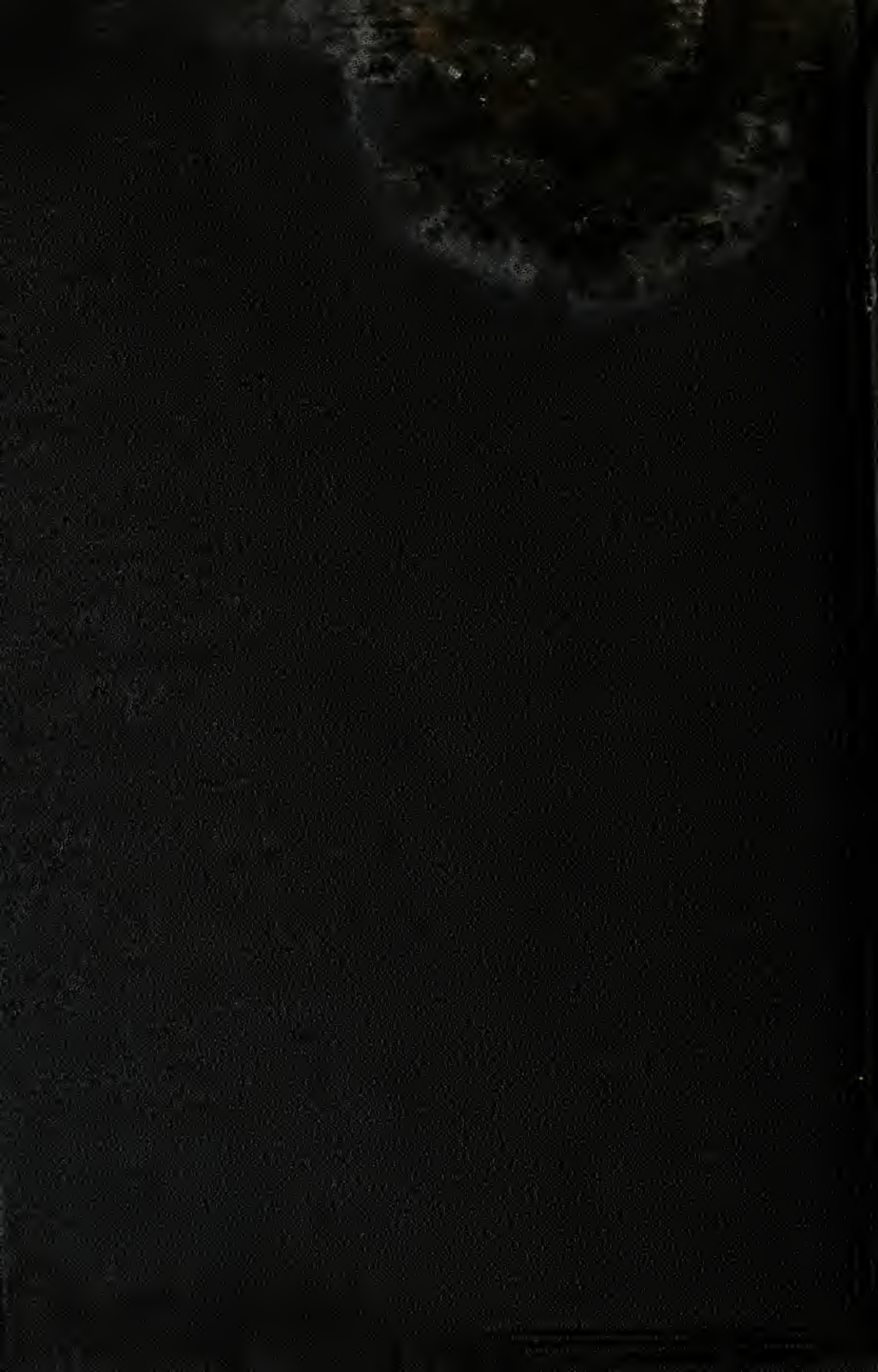
Irrigation—Acres withdrawn from entry in Montana to be reclaimed by U. S. Reclamation Service 63
Area reclaimed by Government in the United States 57
Big Horn Ditch Company 86
Big Horn Low Line Ditch Company 86
Big Timber Carey Land Act Project 84
Blackfeet Indian Reservation projects 73
Carey Land Act projects 83
Clark Fork irrigation project 74
Conrad irrigation project 85
Conrtibutions to National Reclamation Fund, by states 58
Cost of Government irrigated land and payments 76
Cost of Indian Reservation land reclaimed by the Government 63
Crow Indian Reservation project 74
Dearborn Carey Land Act project 83
Expenditures on Montana projects by U. S. Reclamation Service 61
Experimental farms proposed on Government projects 63
Farming the Government irrigated lands 76
Flathead Indian Reservation irrigation projects 73
Ft. Peck Indian Reservation project 76
Government appropriation for in U. S. and area in process of reclamation 57
Government projects in Montana ..... 61 to 80
Helena irrigation project 75
Huntley irrigation project 66
Hysham Co-Operative Ditch Company 86
Lake Basin irrigation project 74
Lower Yellowstone irrigation project 70
Materials consumed, men employed by U. S. Reclamation Service ..... 59 to 60
Marias irrigation project 72
Milk River Valley project 64
National reclamation fund 58
Number of farms irrigated by Huntley project 62
Reclamation by the State 81
Sanders Co-Operative Ditch Company 86
St. Mary's irrigation project 72
Sun River irrigation project 70
Terms of sale of Government irrigated lands 63
Teton Co-Operative Reservoir Company 87
Townsend Irrigation project 75
Two Legging Canal Company 86
Water Users' Associations 78
Water's Users' Co-Operative Certificates 79
Work done by Reclamation Service in the United States 59
Jail incarcerations ..... 269 and 270
Jefferson County—Description of 23
Directory of county officials 295
Number of representatives from 275
Production of minerals ..... 187 to 200
Judges—Directory of State Supreme 278
Directory of U. S. 271
Judith Basin 92
Kalispell—Residences erected 1908 16
Labor ..... 163 to 184
And the U. S. Supreme Court 178
Boycott constitutional in Montana—Supreme Court decision ..... 173 to 178
Compulsory insurance of employees ..... 169 to 173
Eight-Hour law 168
Employers' liability and compulsory insurance ..... 169 to 173
Drug Clerk's Strike 166
Employment abuses ..... 163 to 165
Business of the Free Public Employment offices at Butte and Great Falls, 1907 and 1908 ..... 181 to 184
Lumbermen's strike 167
Miners' Union five-year wage agreement 165
Printers' strike 167
R. M. B. Tel. Co strike and injunction 180
Sixteen-Hour law 168
The Butterick case 180

	Pages.
Lake Basin irrigation project	74
Land Commissioners—Directory of	280
Land Offices—Date each U. S. land office was opened	33
Lands	32 to 87
Area, surveyed and unsurveyed	33
Big Horn Ditch Company	86
Big Horn Low Line Ditch Company	86
Big Timber Carey Land Act project	84
Blackfeet Indian Reservation irrigation projects	73
Clark Fork irrigation project	74
Coal entries, 1873 to 1908	33
Conrad irrigation project	85
Cost and conditions of settlement on Government irrigation projects	61 to 64
Cost of Government irrigated land and payments	76
Crow Reservation project	74
Dearborn Carey Land Act project	83
Desert entries, 1877 to 1908	33
Directory of members of Carey Land Act Board	281
Directory of U. S. Land Offices	271
Entries of at various land offices, 1903	32
Farming the Government irrigated lands	76
Flathead Indian Reservation projects	73
Ft. Peck Indian Reservation project	76
Helena irrigation project	75
Homestead entries, 1903	33
Homesteading—Law in relation to	33 to 45
Huntley irrigation project	66
Hysham Co-Operative Ditch Company	86
Lake Basin irrigation project	74
Lower Yellowstone irrigation project	70
Marias irrigation project	72
Milk River Valley irrigation project	64
Opening Indian reservations	46
Public and Indian entered 1902 to 1908	33
Reclamation by the State	81
St. Mary's project	72
Sanders Co-Operative Ditch Company	86
See the land before buying	64
Sold at Miles City	90
State	55 and 56
Sun River irrigation project	69
Susceptible to dry land farming	32
Timber and stone entries, 1878 to 1908	33
Timber culture entries, 1873 to 1908	33
Townsend irrigation project	75
Two Legging Canal Company	86
Water Users' Associations	78
Law Library—Directory of Board of Trustees	281
Lead—Production of	187 to 190
Lewis and Clark County—Dearborn irrigation project	23
Description of	23
Directory of county officials	295
Farming in	99
Number of representatives from	275
Production of minerals	187 to 202
Population of	16
Lewistown—Precipitation at	92
Library—Directory of the Board of Trustees of the State Historical and Miscellaneous	281
Directory of the Board of Trustees of the State Law	10
Lincoln County—Directory of county officials	296
Number of representatives from	275
Licenses—Occupation collected, 1906 and 1907	256 to 261
Liquor selling	10
Live stock	127 to 162
Livingston—Population of	15
Lower Yellowstone irrigation project	70

	Pages.
Lumbermen's strike	167
Madison County—Description of	25
Directory of county officials	296
Examples of farm production	97
Number of representatives from	275
Production of Minerals	187 to 204
Manufactures	219 to 222
Marias irrigation project	72
Meagher County—Description of	24
Directory of county officials	296
Farming in	99
Number of representatives from	275
Production of minerals	188 to 207
Medical Examiners—Directory of State Board of	282
Miles City—Cost of railroad shops and men employed	15
Population of	16
Real estate conveyances, 1908	15
Residences erected, 1908	16
Milk River Valley irrigation project—Acres withdrawn by Government for irrigation	64
Mineral Production	185 to 211
Miners' Union five-year agreement	165
Mines—School of—Directory of Board of Trustees and faculty	284
Mining Association—Montana	218
Mining—Placer dredging	212 to 217
Missoula—Buildings erected and cost of	13
Cost of new bridge	14
Cost of new court house	13
Cost of new high school building	13
Estimated monthly pay-roll	13
Population of	13
Missoula County—Directory of county officials	297
Farming in	97
Number of representatives from	275
Production of minerals	188 to 207
Montana—Area in square miles, classified	32
Area of coal lands	32
Area cultivated	32
Area in forest reserves	32
Area of Indian Reservations	32
Area of water surface	32
Civics of	8
Climate and chorography	21
Constitution and government	8
Fiscal year	10
Introduction to the resources of	1
University of—Directory of executive committee and faculty	284
Waterways movement	30
Montana College of Agriculture and Mechanic Arts—Directory of executive committee and faculty	285
Montana Experiment Station—Directory of	285
Montana's Municipalities	11 to 20
Montana Wool Growers' Commission Company	161
National Guard of Montana—Directory of	279
Naturalizations	262 to 266
Normal College—Directory of executive committee and faculty	284
Oats—Production of	90
Officials—Directory of county	290 to 301
Directory of State	278 to 279
Directory of United States	271 to 275
Orphans' Home—Directory of the Board of Trustees and management	287
Osteopathy—Directory of the State Board of	282
Pardons—Directory of the State Board of	280
Park County—Description of	25
Directory of county officials	297
Farming in	94
Mineral production	188 to 208
Number of representatives from	275

	Pages.
Park Commissioners—Directory of for Great Falls and Helena	288
Penitentiary—Commitments to, 1906 and 1907	250 to 251
Commitments, 1896 to 1907	249
Pharmacy—Directory of State Board of	282
Postoffices—Directory of	307 to 310
Potatoes—Production of	90
Powell County—Description of	23
Directory of county officials	298
Farming in	99
Number of representatives from	275
Production of minerals	187 to 208
Precipitation	229 to 247
Printers' strike	167
Prison Commissioners—Directory of State Board of	280
Prison—State—Directory of	283
Ravalli County—Directory of county officials	298
Farming in	97
Number of representatives from	275
Production of minerals	188 to 209
Reclamation by the State	81
Big Timber project	83
Conrad irrigation project	83
Dearborn Carey Land Act project	83
Reclamation Service—Directory of	272
Red Lodge—Home building	17
Pay-roll resources	17
Population of	17
Referees in Bankruptcy	275
Reform School—Directory of the Board of Trustees and management	286
Representatives—Congressional from Montana	275
Directory of the Montana House of	276
Number from each county	275
Roster of the House	278
Representative districts and apportionment	275
Revenue from licenses, 1906 and 1907	256 to 261
Rosebud County—Description of	24
Directory of county officials	298
Number of representatives from	275
Precipitation	111
Yields of grain at sub-experiment station	111
Roundup—Population of	20
St. Mary's irrigation project	72
Sanders County—Directory of county officials	299
Farming in	97
Number of representatives from	275
Sanders Co-Operative Ditch Company	86
Schools—Compulsory attendance	10
Number of county high schools in the State	10
Number of pupils in the State	10
Number of pupils in parochial	10
School Houses—Number of and value in the State	10
Teachers—Number in the State	10
School of Mines—Directory of the Board of Trustees and faculty	284
State Normal—Directory of executive board and faculty	284
Senate—Roster of attaches	277
Senators—Directory of	276
Number from each county	275
U. S. from Montana	275
Settlers—For the prospective	26
Sheep—Average fleece per sheep	129
Comment of growers by counties	136 to 143
Commissioners and inspectors—Directory of	289
Conditions in Australia	146
From the manufacturers' point of view	143 to 145
Number imported into the State, 1907 to 1908	129
Number of sheep in Australasia, 1903 to 1907	157
Slaughter and movement of sheep	153

	Pages.
Sheep and Wool	129 to 162
Montana Wool Growers' Commission Company	161
Report from the National Association of Wool Manufacturers	143 to 160
Shields River Valley	94
Silver—Production of	187 to 190
Sixteen-Hour law	168
Silver Bow County—Description of	23
Directory of county officials	299
Farming in	99
Number of representatives from	275
Production of minerals	186 to 209
Soldiers' Home—Directory of State Board of Managers	287
State Insale Asylum—Directory of	283
State Land	55 and 56
State Orphans' Home—Directory of the board of trustees and management	287
State Prison—Directory of	283
State Reform School—Directory of board of trustees and management	286
State School for the Deaf and Blind—Directory of the board of trustees and management	287
Stock Commissioners—Directory of the State Board of and inspectors	288
Sugar—Consumption in Montana	115
Sugar Beets	115
Montana Beet Growers' Association	116
Yield, 1907 and 1908	115
Sugar beet factory, Billings	115
Sun River irrigation project	69
Supreme Court—Directory of the State	278
Sweet Grass County—Description of	24
Directory of county officials	300
Farming in	94
Number of representatives from	275
Taxation—Proceeds from, 1908	9
Rate of and maximum rate	9
Teton Co-Operative Reservoir Company	87
Teton County—Comparative area	22
Description of	22
Directory of county officials	300
Examples of farm production	101
Number of representatives from	275
Rainfall	23
Textboox Commissioners—Directory of the State Board of	281
Three Forks—Town lots sold at auction	20
Timber and stone entries, 1873 to 1908	33
Timber culture entries, 1873 to 1908	33
Townsend irrigation project	75
Two Legging Canal Company	86
U. S. Commissioners of Deeds	273
U. S. Officials—Directory of	271
U. S. Reclamation Service (see under Irrigation)	57 to 80
Directory of	272
University of Montana—Directory of executive committee and faculty	284
Valley County—Description of	22
Directory of county officials	301
Farming in	103
Number of representatives from	275
Rainfall	22
Vote by counties	302 to 306
Water power at Great Falls	223
Water Users' Associations	79
Water Users' Co-Operative Certificates	79
Weather	229 to 247
Wheat—Production of	90
Whitefish—Population of	19

Pages.

Wool—Annual wool supply, 1890 to 1908 152
Australasian production 155
Available supply, 1903 to 1908 152
Average and total value per scoured pound 149
Boston receipts 158
Course of prices ..... 158 to 159
Exported from Australia 156
Imports from Argentine 158
Imported into New York, Boston and Philadelphia by principal countries.... 160
London sales 154
Product per sheep sheared 129
Production of, 1907 and 1908 129
Pulled 150
Shrinkage of 149
Storage warehouse built at Omaha 145
Value of, 1901 to 1908 151
Weight of Australian bales of, 1898 to 1908 157
Yellowstone County—Description of 24
Directory of county officials 301
Examples of farm production 91
Number of representatives from 275
Precipitation 111
Yields of grain at sub-experiment station 111
Zinc—Production of ..... 187 to 190